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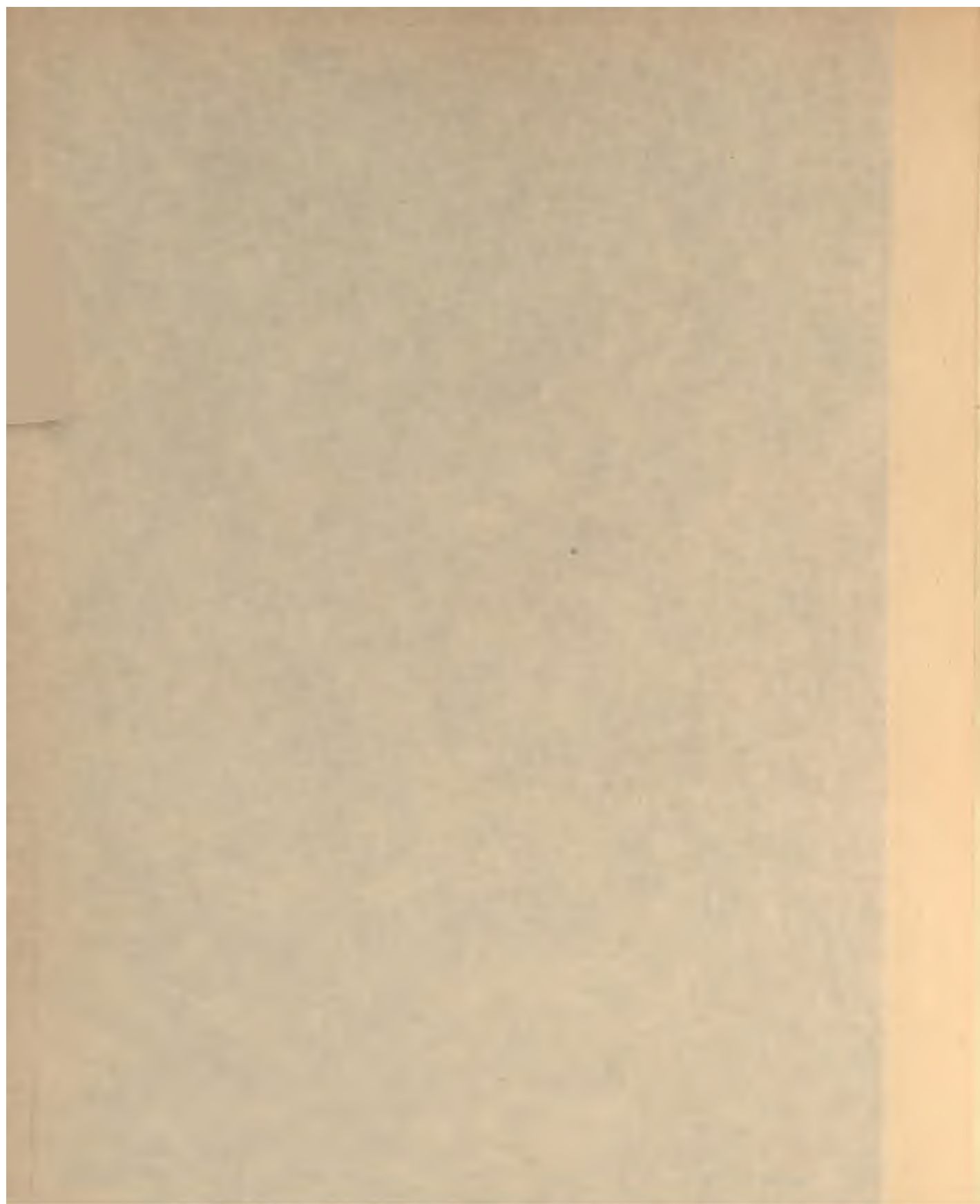
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CHEMICAL

CHEMICAL TRANS JOURNAL

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The Commercial Aspect of the Chemical and Allied Industries.

EDITED BY

GEORGE E. DAVIS.

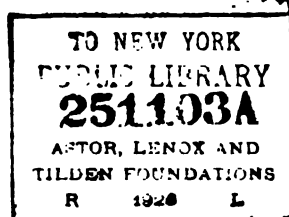
FORMERLY ONE OF HER MAJESTY'S INSPECTORS OF ALKALI WORKS.
CHEMICAL ENGINEER AND CONSULTING CHEMIST.

VOLUME XVII.

[JULY TO DECEMBER, 1895.]

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LATE ADVERTISEMENT.

TENDER.

CORPORATION OF ILKESTON. GAS DEPARTMENT.

TENDER FOR TAR.

TENDERS are asked for the Surplus Tar produced at the Gas Works, Ilkeston, for one year, from August 1st next.

Offers to be sent, addressed to **WRIGHT LISSETT, Esq., Town Clerk, Ilkeston**, before noon, July 22nd, on forms, which may be obtained, and any further information, on application to

Gas Works, July 4th, 1895.

F. C. HUMPHREYS,
Engineer.

Highest or any Tender not necessarily accepted.

Notices.

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Trade Advertisements, Announcements in the Directory Columns, and all Advertisements not prepaid, are charged at the Tariff rates, which will be forwarded on application.

Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

CURRENT TOPICS.

THE BRINE-PUMPING COMPENSATION AREA.

THE long-debated and often hotly-discussed question of the subsidence compensation area has at length practically been disposed of. To all intents and purposes the promoters of the Bill, confirming an order of the Local Government Board, and including Northwich, Middlewich, and Winsford, with certain other rural districts, in one equally-taxed compensation area, have failed to carry their measure, since the Bill as amended by the Parliamentary Committee, leaves out the majority of the places that the promoters originally proposed to include.

Several proposals were made by way of modification before the final decision was arrived at. These are given in the report to be found elsewhere in this issue.

Even the final decision does not give any further detail than that the district is to be restricted to Northwich with a special boundary, to be marked out by the chairman of the committee, passing through Billinge Green and Whatcroft, so as to include the subsidences in the neighbourhood of these places.

Such is the outcome of a very expensive inquiry, which, like most inquiries of the kind, has terminated in a way not altogether pleasing to all parties. At the same time there can be little doubt that after such mature consideration of so much evidence, the committee have arrived at a decision which is based upon an equitable estimation of the circumstances of the case.

NOT ALWAYS THE CHEMICAL WORKS.

In connection with the discussion of unhealthy occupations chemical works are almost invariably cited as striking examples. The serious accident that has occurred this week at East Ham shows, however, that the chemical works is not the only place where the dangers of gassing assume serious proportions. To read of four men, including the chief engineer, going to a sewer manhole, and being gassed so suddenly that they fell down the hole one after the other seems almost impossible, yet such was the case, all four being dead before they could be recovered, while a fifth, who was the first to be brought up, has since died.

The most striking thing is that men supposed to be used to sewer work should one after the other endeavour to effect a rescue without seeing if it was possible for the rescuer to accomplish his task. Evidently none of those about at the time had the slightest idea of what to do, for it was not till five men had fallen down the hole overcome, that any one thought of testing the shaft with a light or a bucket of fire.

In some ways the incident is singular, as the manhole was never more than partially covered, in addition to which it had been wholly uncovered for 15 minutes before the first man went down.

Accidents no doubt will happen, and this, owing to its serious consequences is a most regrettable one. It also shows that the chemical and allied industries are not the only ones which are attended by dangerous surroundings; there are other callings which apparently are in as great if not more need of the grandmotherly attention of the State. The dangers of a chemical works are known, and in most cases emergencies prepared for. The condition of affairs in the present instance seems to have been the very opposite. Had it been otherwise, the fatalities might have been reduced to one, and possibly to *nil*.

METRICAL WEIGHTS AND MEASURES.

To those who have followed the matter, the proposal embodied in the report of the Select Committee of the House of Commons on Weights and Measures, that has been issued this week, will not be a great surprise, but doubtless, to the majority, the suggestion that the metric system should be substituted for our old and vagarious ones, will sound somewhat revolutionary.

It is a fact, however, that the requirements of trade have rendered the adoption of the metric system necessary in this country in many instances. For scientific purposes of course it has long been used, both in the laboratory and on the manufacturing scale. The advantages of adopting this system, which renders home and foreign methods at once comparable, are self-apparent in this and many other directions.

It is, therefore, with pleasure we gather from the report that the committee suggest the legalisation of the metric weights and measures and the compulsory adoption of, same after two years.

In this way the system will be given a fair trial, which will, we venture to think, result in very little need for compulsion at end of the two years.

In the matter of use, the metric system when once used undoubtedly possesses the same advantage that a much advertised article has long laid claim to.

REDUCTION OF ALUMINA, ETC., BY HYDROGEN.

THE refractory earths alumina, glucina, chromium oxides, etc., have hitherto refused to become reduced by means of hydrogen. Mr. H. N. Warren claims, however, to have lately succeeded in reducing not only the above-named earths, but even zirconia, although silica and magnesia have as yet yielded no metal when exposed to the action of hydrogen gas.

The difficulty in obtaining a substance free from carbon, and, at the same time, one of difficult fusibility, has naturally been the chief drawback in reducing the oxides in quantity, but in several instances distinct globules of melted metal have been obtained.

The apparatus made use of consisted of a thin tube composed of compressed lime of excellent quality, the alumina enclosed therein being obtained by calcination of the aqueous chloride. To one extremity of the tube was attached an apparatus for evolving pure and dry hydrogen gas, whilst to the exterior of the tube and upon the same spot wherein was enclosed the alumina, was allowed to impinge the flame from a powerful oxyhydrogen blow-pipe, both gases being under the same pressure. At the same time a slow current of hydrogen gas was sent through the tube for about ten minutes. The action of the melted alumina upon the lime very soon, however, determined the destruction of the calcareous lining, owing to the increased fusibility of the compound formed, whilst its interior showed no trace of metallic formation.

This, on referring to the action of hydrogen upon zinc oxide, will be better understood, a slow current of gas producing no effect, while, on the contrary, a swift current of gas readily reduces the oxide, through depriving the interior of the apparatus of the aqueous vapour formed, thus preventing reoxidation of the metal under formation. A second tube, arranged as in the former case, was, therefore, experimented upon, using a brisk current of hydrogen gas. The interior of the tube upon examination now contained distinct traces of metal, perfectly bright, while in a further experiment distinct beads of aluminium were detached and examined, resulting in pure metal. A mixture of $Al_2O_3 +$

CuO readily reduced to aluminium bronze, and tungsten and molybdenum were reduced and fused. Zirconia has as yet not afforded such striking results; whilst silica and magnesia have failed altogether.

Our Book Shelf.

STEEL WORKS ANALYSIS. By J. O. Arnold. 350 pp., including Index; 22 woodcuts. London: Whittaker & Co., 1895. 10s 6d.

This work forms one of the publishers' well-known Specialist series. A practical handbook for the laboratory will be welcome to many steel-works chemists. The work is pleasingly free from the compilation element which so frequently prevails in books of this kind. It is essentially a practical work. The author only gives methods of which he has had personal practical experience. In consequence his selection is at some points open to criticism, but on the whole it is good. Particulars are first given of the arrangement of a steelworks laboratory. A selection of methods for estimating the carbon, arsenic, sulphur, phosphorus, manganese, &c., in iron or steel is then given. The rest of the work is devoted to the analysis of special alloys, ores, fuels, slags, and such like relevant materials. For a technical work, there is much room for improvement in the chapter on the analysis of boiler water, which is hardly up to the standard of the rest of the contents. The book itself is excellently got up, diversity of type being used to good purpose, while the paragraphs and sections are effectively arranged. The approximate time required for each process is given, thus emphasising a point which is often of great importance. The theory of the processes is also dealt with at some length, thus making the work an invaluable guide to students or assistants. At the same time it constitutes a reliable and practical handbook of reference for all iron and steel chemists.

PETROLEUM. By R. N. Boyd. 85 pp., including Appendix. London: Whittaker & Co., 1895. 2s.

The object of this brochure is plain enough, but the need which it intends to meet is much less so. The most useful portion is the communicated chapter on petroleum engines, which is full of useful information, expressed in a simple, straightforward way. The first eight chapters deal with the history, origin, production, storage, transport, etc., of petroleum, and tell us no more than, if as much, as is to be found in any standard work on applied chemistry or dictionary of the same. Much of the information is of such a nature as to suggest "inspiration," especially on certain points. There is a chapter on flashpoint and lamp accidents, which contains nothing that is new, at the same time giving currency to much that is debatable. To those who know nothing about petroleum, the booklet will no doubt be of interest, but its sphere of utility is confined to this class. Those, however, who want a brief summary of the present position of oil motors in relation to gas and steam engines will find it well worth its price.

CHEMICAL ANALYSIS OF OILS, FATS, AND WAXES. By Dr. R. Benedikt, revised and enlarged by Dr. J. Lewkowitsch. 683 pp., including index. Illustrated. London: Macmillan and Co., 1895. 21s. net.

It is naturally not without some curiosity that another work bearing so closely the title of the late Alder Wright's comparatively recent book, is at first received, but a further study of the work before us soon dispels any doubts as to its scope and qualifications. The book under review deals more especially with the analytical side of the question, and presents a very useful review of all the most useful work that has been done in this connection. Divided into thirteen chapters, the first four deal with the chemical constitution of fats and waxes, their chemical and physical properties. In the next two chapters the preliminary analytical methods are dealt with, followed in chapters vii., viii., and ix. by the general methods of quantitative analysis employed, and the estimation of foreign substances.

The systematic examination of liquid and solid waxes next receives attention. With chapter xi., one of the most original portions of the book, we have a special classified description of the natural fats and waxes, their chemical and physical characteristics and adulterants, in conjunction with particulars of the methods of testing the former and detecting the latter.

Chapter xii. is the most interesting in some ways to the technologist, as it deals with the analysis of the raw materials and products of the fat and oil industries. Most of the items are dealt with at sufficient length to enable a concise summary of the chief points to be presented.

The most notable section, however, is that on glycerine, which is essentially practical and thoroughly up to date. The book concludes with a detailed description of the analysis of several typical compounds, which serve as examples for the treatment of kindred materials.

As a whole the work is an excellent laboratory hand-book of oil and fat analysis, invaluable to all those connected with these industries, being well arranged and easy of reference.

The Patent List.

This list is compiled from Official sources in the Manchester Chemical Laboratory, under the immediate supervision of Mr. E. Davis and Alfred R. Davis, who report professionally the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

re-deposition of Gold and Silver. E. Andreoli. 11,752. June 17.
 izing and Utilising Currier's Black. H. H. Lake. 11,766. June 17.
 izing Oil Burner. J. Barang and J. Mücke. 11,767. June 17.
 icture of Polysulphides of Potassium and Sodium. B. Von henke. 11,786. June 17.
 ge and Sewage Sludge Mixers. W. Warner. 11,798. June 18.
 ved Bunsen Flame. J. B. Terrace. 11,815. June 18.
 e Consuming Furnaces. R. Haddon and A. Clayton. 11,900. June 19.
 ing Ground Slags for Fertilizers. C. H. and A. W. Langdale. 11,903. June 19.
 icture of Disinfecting Preparations. G. Dawson. 11,908. June 19.
 icture of Sheep Dipping Powders. F. W. Passmore. 11,921. June 19.
 re-deposition of Metals. C. Raleigh. 11,944. June 19.
 icture of Carbon Dioxide. J. S. Wallace and F. L. Ball. 11,947. June 19.
 uring and Purifying Waste Oil. V. Caniez and A. Bettoni. 11,948. June 19.
 izing Lead from Zinc and Sulphide Ores. J. A. Mays. 11,958. June 19.
 ick Grease-mixing Machine. J. Peters. 11,972. June 20.
 izing Blast Furnace Bye-products. J. P. L. Bentham and J. Judge. 11,970. June 20.
 izing Wool with Hydrochloric and Sulphuric Acids. H. Schirp. 11,912. June 20.
 izing Certain Metallic Oxides by Alkaline Amalgams. L. Mond. 11,918. June 20.
 vements in Disintegrators. J. A. B. Sanderson and J. H. Wood. 11,940. June 20.
 izing, etc., Water. J. H. Osbourn. 12,067. June 21.
 izing Sodium or Potassium Nitrate. R. Matthews. 12,082. June 21.

EXTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal. ALL RIGHTS OF PUBLICATION ARE RESERVED. This is the earliest of abstracts of Chemical and allied patents accessible to the public.

1. W. Ford, 57, Duke-street, Liverpool, and C. P. Maher, 7, Butler-street, London. Eng. Pat. 6,717, April 2nd, 1895.
 Disinfecting soap is prepared by the incorporation of eucalyptus preferentially added after saponification, while the soap is in a viscous state. For the preparation of a toilet soap suggested that six drops of eucalyptus oil should be added every pound of soap. The proportion of oil varied, however, according to the subsequent use of the soap. Thus for household soap, dry soap, and laundry soap the amount of eucalyptus is increased to meet the requirements of the purpose for which it is to be used.

Improvement in the Purification of Alcohol, Spirits, and the Like.—E. J. Paterson, and C. F. Cooper, of European Works, Pownall-road, London. Eng. Pat. 13,153 July 6th, 1894.

The object is to substitute charcoal filters with electrolytic treatment for the purification of crude alcohol. This is accomplished in two ways, (a) by adding to the phlegms obtained by fermentation and distillation a mixture of an electrolysed sodium and magnesium chloride solution or by adding the solution of chlorides first and then electrolysis. The mixture is subsequently re-distilled and rectified in the usual way. In some instances it is desirable to again electrolyse the spirit after rectification. In this case, it is preferably passed through a special apparatus previously described in patent 1993/87. In practice it has been found that using a mixture of 33 gallons of electrolysed solution containing 400 lbs. of common salt and 40 lbs. of magnesium chloride, 100 gallons of raw spirit can be purified within one to two hours.

Improvements in Artificial Stone.—G. T. Jenkins, Wynclyffe Filsham Park, London. Eng. Pat. 7,542, April 13, 1895.

The patent sets forth certain methods of preparing paving and building stones of an attractive appearance. The materials used are Welsh ragstone, Portland stone and Portland cement. The proportions vary according to the use to which the stone is to be put. The preparation of a paving stone is described:—It is composed of three parts (a) a deep layer of coarse stone, made from equal parts of Welsh ragstone and Portland stone, to two of cement; (b) a smaller layer composed of equal parts of Kent ragstone and cement to two of Portland stone, coloured with iron oxide in the proportion of 1-26; and (c) a surface layer of one Kentish rag and two of cement, mixed with ten parts of cement and one of iron oxide for every four parts of the mixture. Two drawings in section show the composition of

this paving stone and a window opening. The stone can be moulded into various forms, such as copings, sills, sinks, steps, &c. The facing on building stone is about quarter of an inch thick, and on paving stone about a half. The weight of a superficial yard of paving, two inches thick, is about two hundredweight.

Improvements in the Filling of Towers used in the Purification of Acid and for such like Purposes.—H. L. Doulton and L. E. Sanceau, Albert Embankment, Lambeth, S.E. Eng. Pat. 14,767. Aug. 1, 1894.

As a substitute for coke in packing acid, &c., purification towers, pottery tiles perforated with round or square holes are proposed. The holes in the tiles are of such size, relatively to the size of the partitions left between them, that when the tiles are placed one above the other, breaking joint in successive layers, the holes in one layer communicate with the holes in the upper and nether layers, although the holes are not in a vertical line with each other. Blocks of 9" square, and about 4" or 5" deep, are suggested as a convenient size, each having four holes of about 3" diameter if round, or 3" square if rectangular. Three drawings show tiles with round and square holes, and a plan view of how the layers are arranged, breaking joint, yet all the holes connecting.

Improvements in Condensers used for the Condensation of Acid Fumes.—H. L. Doulton and L. E. Sanceau, Albert Embankment, Lambeth, S.E. Eng. Pat. 14,766. Aug. 1, 1894.

Pottery-ware towers are substituted for those usually employed for condensing hydrochloric or nitric acids, &c. A parallel series of pottery towers are connected alternately at the top and bottom. The lower connection is so made as to leave a space in which the condensed acid can collect and run off through a trapped branch pipe into a main passing to suitable storage tanks. The top connections are made by domes fitting into sockets on the top sections of the towers, joined by semi-circular pipes of round section. The bottom connections are made by short straight branch pipes fitting into sockets on the bottom sections of the adjoining towers.

The towers are packed with short cylinders, placed end wise, and resting on a ledge provided on the inside of the bottom tower section just above the connecting branch pipe. These cylinders are perforated with a series of small holes, and on them discs are laid which are alternately perforated by a single central hole, and a series of smaller holes nearer their circumference. The fumes thus take a zig-zag course up the tower, passing through the holes in the discs, and through the holes in the cylinders, into the narrow annular space between the said cylinders and the external tower sections. Three drawings show the series of towers in sectional and end elevation, and also in plan. A fourth shows a sectional view of a packed tower, giving details, acid trapping device at the bottom, and the disposition of the baffling cylinders and discs. It is claimed in condensing nitric acid in particular that the acid is obtained ready bleached. If necessary, water can be passed down the last tower in a series, to absorb the last traces of acid in the ascending gases.

SCOTCH PIG IRON SHIPMENTS.—The Scotch pig iron shipments for the past six months totalled 153,201 tons, an increase of 11,804 tons against the same period of 1894. The imports at Grangemouth from the Middlesbrough district during the same time were 182,465 tons, a decrease of 6,155 tons.

FIVE CASES OF FATAL "GASSING."—On Monday morning last, four men lost their lives at the East Ham Sewage Pumping Station, while another man has since died in the West Ham Hospital. Between 6 and 7 o'clock Arthur Rutter went down a well for the purpose of cleaning the screen in front of the sewer pipes leading to the pumping station. He complained of feeling faint, and had nearly returned to the top of the ladder when he suddenly fell back and disappeared. Another man, Digby, at once descended the well to rescue his companion, when he also disappeared. Mr. F. Mills, the chief engineer in charge of the works, was informed of what had occurred, and he immediately descended the ladder, and, hearing groans, asked what was the matter. These were the last words he is supposed to have uttered, as he almost immediately disappeared. Durrant was the next to go to the rescue, and he met with a similar fate. He was followed by a man named Jones, who also felt the effects of the gas, and nearly met with a similar fate. The test of sending a bucket of fire down the shaft was then resorted to, and it was found that the fire would burn. Herbert Worman thereupon volunteered to go down, and he succeeded in bringing up Jones, who was taken on the police ambulance to West Ham Hospital. With great determination Worman descended no fewer than four times, and was on each occasion driven back by the foul gases. At last, however, after a lapse of three hours, he brought the first body to the surface, and afterwards brought up two more. A man named George Wheal brought up the fourth. All four were dead.

ANOTHER VIEW OF THE NITRATE COMBINE.

THE LAUTARO EXPLAINS.

In addressing the shareholders of the Lautaro Nitrate Company, Ltd., recently, the Chairman (Mr. Rau) made some interesting statements as to the attitude of this company to the proposed Nitrate Combine. It will be remembered that the Lautaro was one of the chief companies that refused to join the Combine on the then existing terms. The Chairman stated that it was not the intention of the Board to say more than usual on this subject, knowing that the shareholders would be quite satisfied with the assurance given in the report that "we shall lose no opportunity of co-operating towards a renewal of the combination on a sound basis." This declaration, however, seems to have been challenged outside this company even before it had been made public by the report, and hence it is our duty to give you some explanations as to the combination of nitrate makers in general, and as to the attitude which your directors consider the most suitable for the interests confided to them. You are all aware that combinations have been repeatedly made, and that the capacity of each producer was understood to serve as a basis for the division of the aggregate make of all the producers, so that each should get his fair share, which, while being smaller to a varying extent than his possible output, would compensate him in two ways for the diminution of his own special total of sales, firstly, by the increased price at which, by the reduction of the total supply, he could sell his reduced make, and, secondly, by a saving of the raw material, thus prolonging the life of his business, a consideration which in the case of some makers is, I understand, an important one. Since the last combination, however, things have materially changed, and we cannot, without a gross neglect of your interest, leave these changes out of reckoning when called upon to agree to a new combination in which the much-appealed-to give-and-take theory would, in our case, have too much of the give and too little of the take in it. There have been new and important works erected, some on grounds of probably less than one-tenth of our grounds, and yet wanting to come in, not only for the same, but for several times the output allowed to our works. Now you will be surprised to find that such enormous works have been erected, which must inevitably increase the production, at the same time that it is desired to form a combination to restrict it. It would appear that there is some glaring contradiction between these two facts—namely, preparations for an unreasonable increase of production first, and an imperious desire for combination immediately afterwards. Why so enormously increase production just when you are on the point of calling for a restriction? This is where the appearance only of equality comes in and where the substance is entirely left out, because if you bring into play considerably increased means of production, and then ask for a division of the total output, on the ground of mere productive capacity only, without having any regard for the number of years it may last, it is clear to the dullest mind that it is the producers, who formerly may have shared fairly enough, who will now be those to bear heaviest sacrifices, both in the present and when the contemplated combination will be over. Consequently, the clearest result of combination, if made on terms of inequality, would be to delay the crisis in the nitrate industry only to make it much more acute a little later. As regards our company specially, the good results of last year are undoubtedly due in a measure to the high prices, owing to the last combination for restricting the production of nitrate. Unfortunately, as mentioned before, this position is entirely changed, and the formation of new companies has been carried out to such an extent that the production has already exceeded the consumption very seriously, while other *oficinas* in construction must necessarily still further increase that excess. Therefore, although the outlook is one of great anxiety, your directors are only willing to join such a combination as will not appear to them calculated to further stimulate over-production. You may, however, depend that the board will do its best in your interests; but we cannot close our eyes to the fact that the consequences of the present over-productive power may affect future profits, seeing that, even with the combination project now under consideration, our *quota* would be a little more than one-half, or seven-twelfths only, of the quantity of nitrate we made last year, and, as fixed expenses cannot be reduced correspondingly, the cost per quintal of the lesser quantity of nitrate manufactured must be proportionately higher. At the same time, shareholders may console themselves with the knowledge that, whatever course be adopted, this company, as far as one may reasonably foresee the future and prepare for it, will always fare as well as the best, as, notwithstanding the often alleged facts that the Taltal grounds cannot compare as to richness with some of those of Tarapacá, and that the difficulties of transporting raw material to the *oficina* are great, yet the Lautaro Company has such an enormous extent of them now developed by an expenditure of over £200,000, in water service and calichera railways, in addition to the usual *oficina* equipment that this company will be able to place its nitrate on board ship as cheaply as any, and so long as it continues to do this, and to keep a strong pocket, which your board will always try to maintain, shareholders need not

fear a bad time ahead such as now threatens. Of course, we may have this bad time; but I think it just as well to say so frankly. Now I have to make a little communication to you with regard to one of the attacks made upon our company. I disregard some of them. But there is one statement to which I am obliged to refer. At the meeting of the Paccha and Jazpampa Nitrate Company, the chairman said that our company actually wanted more than it could produce. I considered that we could not allow such a statement, coming, as it did, from the chairman of the Permanent Nitrate Committee, to pass without replying to what might have been simply an involuntary mistake, and, consequently, with the concurrence of the board, I asked our secretary to write to the newspaper in which the above had appeared. I am anxious to explain that this was not a frivolous desire to point out a mistake, however glaring, but to vindicate the fairness of the attitude of our company in the matter of combination. The chairman of the Paccha Company has not thought fit to take any notice of our rectification, and I think we may take it that this means a tacit admission of his mistake.

FILTRATION OF SEWAGE EFFLUENTS.

(Continued from p. 416, Vol. XVI.)

Filter No. 4. Sand.—This filter, having an area of 16 square yards, or $\frac{1}{30}$ th of an acre, was filled with gravel, walnut size 5 inches, bean size $2\frac{1}{2}$ inches, pea size $1\frac{1}{2}$ inches, and sand 10 inches, taken in order from below upwards. It formed part of the compound proprietary filter. The rate at which effluent was passed through was one-half more per square yard than in the case of the other filters, the sand filtration being a preliminary to the treatment by the proprietary article, and the areas of the two portions being together equal to one of the remaining filters, already described.

The clarification effected was much greater than in the case of Nos. 1, 2, and 3, but the purification, measured by the reduction in the amount of oxidisable matter in solution, was considerably less than in the case of the coke breeze, somewhat less than by the pea ballast, and only very slightly better than by burnt clay. On two occasions the filtrate became slightly putrid, the results thereby differing from those obtained from any other filtering material employed. Doubtless this tendency to become putrid was to a great extent due to the deficient aeration of the interior of the filter, in consequence of the capillary attraction of the finer particles of sand holding the water, and thus choking the pores when the filter was emptied. This filter had to be repeatedly raked and cleared, whilst $2\frac{1}{2}$ inches of sand were removed and replaced by new on the 11th of July.

The following are the results of the analyses made:—

Date, 1892.	Oxygen absorbed in 4 hours.		Albuminoid Ammonia.	
	Crude effluent.	Filtrate.	Crude effluent.	Filtrate.
June 21st	2'255	1'555	'250	'200
" 24th	2'205	'735	'230	'050
" 29th	'890	'750	'150	'100
July 7th	1'533	1'267	'220	'080
" 8th	1'330	1'050	'200	—
" 11th	1'624	1'218	'250	'100
" 13th	1'230	1'106	'380	'240
" 15th	1'161	'875	'330	'110
" 18th	2'611	'378	'270	'150
" 20th	1'260	'700	'170	'080
" 22nd	2'415	1'442	'350	'150
Aug. 10th	2'198	'980	'230	'110
" 15th	1'351	'798	'260	'140
" 22nd	2'093	1'155	'210	'120
Average purification effected=	46.6.			

No. 5. Proprietary filter.—This filter contained an area of 8 square yards, and was filled with 3 inches of gravel walnut size, 2 inches gravel bean size, $1\frac{1}{2}$ inches gravel pea size, 1 inch sand, and 12 inches of the proprietary material; taken in order from below upwards.

The effluent which it received had already passed through filter No. 4 (sand), and had thus been greatly clarified, whilst the dissolved impurity had been removed to the extent of 46.6 per cent. The rate of filtration was three times that of the other filters, so as to bring up the rate of the combined filter to an equality with the rest. The filter was supplied with perforated pipes, leading to the surface, for aeration. In general appearance the filtrate from this compound filter was slightly superior to all the others, the clarification effected being a little more than in the case of the sand forming the first portion. The

purification effected by this process of double filtration amounted to 61.6 per cent., a figure practically the same as was obtained by the use of coke breeze. None of the filtrates showed any signs of putrescence when kept for lengthened periods in either open or closed bottles.

This compound filter was erected by the proprietors of the special filtering material, and worked in accordance with their wishes. It will be observed that sand and gravel played a very large part in the process. The following are the results of the analyses made:—

Date, 1892.	Oxygen absorbed in 4 hours.		Albuminoid ammonia.	
	Crude effluent.	Filtrate.	Crude effluent.	Filtrate.
June 14th	3.311	.679	.430	.170
" 15th	2.154	.808	.270	.220
" 17th	1.909	.955	.270	.160
" 21st	2.255	.700	.250	.150
" 24th	2.205	1.841	.230	.090
" 29th	.890	.953	.150	.090
July 7th	1.533	.539	.220	.110
" 8th	1.330	.910	—	—
" 11th	1.624	.609	.250	.090
" 13th	1.230	.231	.380	.090
" 15th	1.610	.371	.330	.100
" 18th	2.611	.749	.270	.110
" 20th	1.260	.350	.170	.070
" 22nd	2.415	1.246	.350	.050
Aug. 10th	2.198	.406	.230	.040
" 15th	1.351	.322	.260	.100
" 22nd	2.093	.581	.210	.060
Average purification effected=61.6 per cent.				

(To be continued.)

OCEAN TOWING OF PETROLEUM TANKS.

THE Standard Oil Company are, we understand, making an experiment upon the possibility of towing tank barges across the Atlantic. Recently a tanker sailed from America having in tow a barge laden with a full cargo of oil in bulk, and which is being towed to this country. The possibility of this course has only been made evident by the success of an apparatus called the Shaw and Speigle steam-towing machine. This machine has been used in the towing of barges up and down the Western Atlantic seaboard, and it has been so eminently successful that the chief coal and ore transport companies in America have adopted it. Its distinctive feature is that by means of its driving and cushioning steam cylinders there is provided an elastic steam cushion, without which the hawser would be continually straining and frequently breaking. A manilla hawser, although it is more elastic than the steel hawser, is very bulky to handle or to stow on a barge, and it also becomes very expensive on account of its ordinary wear and tear. A steel wire hawser will last apparently for an almost indefinite time without stranding or even straining, as appears from practical use. In its principle and mode of working the tow barge is borne entirely by the steam pressure in the cylinders. The wire hawser is wound on a drum that is driven by a pinion gear on the crank shaft of the engine, which meshes with the gear on the drum shaft. This machine has a regulating reducing steam valve, in which the opening is increased or diminished according as the strain on the hawser increases or diminishes. The action of the machine is as follows:—In a seaway as the vessel pays off, thus increasing the strain on the hawser, the drum begins to revolve and to pay out the hawser; this action opens the regulating valve and increases the steam pressure in the cylinders until the pressure is sufficient to equal the strain. Then, if the strain decreases on the hawser, the pressure in the cylinders will revolve the drum and wind the hawser in. In this way the machine is prevented from paying out the whole of the hawser, and only enough is paid out to relieve the extra and momentary strain on the hawser, and thus prevent its injury or its breaking. When the tow barge casts off the hawser, then the regulating valve is disconnected, and the machine becomes in effect a simple hoisting drum to be started to wind up the hawser. It is claimed that for ocean steamers this invention is also well adapted, as better assistance can be rendered to disabled vessels to bring them to port than can be offered by any other means heretofore available. The salvage gained by the saving of one ship would pay for many of these machines. The barge to be brought across is No. 58, having a capacity of 3,000 tons of oil.

THE BRINE PUMPING COMPENSATION DISTRICT.

THE House of Commons, Committee last week concluded the consideration of the Bill for establishing one compensation district in Cheshire for damage done by subsidence caused by brine-pumping. The Bill, which confirmed an order of the Local Government Board, proposed the inclusion in one district of Northwich, Winsford, Middlewich, Sandbach, Congleton (rural), Nantwich (rural), and Alsager. Asked by the Chairman (Mr. Mount) what was the nature of the further evidence he proposed to call, Mr. Balfour Browne, Q.C., who led for the opponents, said he proposed to prove that the gas oil test put down No. 4 shaft had no effect at all upon the brine at Winsford. He also proposed to call Mr. Rigby, who had very large experience of the salt industry, to prove the brine levels taken from day to day, and to show that Colonel Ducat's, on which he partially founded his proposed district, were wrong. There were also two or three witnesses—brine pumpers from Winsford and Middlewich—to prove that they were doing no damage anywhere, and that therefore it would be most unjust to tax them for damage done by others.

The Chairman: The Committee don't wish to hear any further evidence from the petitioners, and ask the promoters to make such reply as they are prepared to make.

Mr. Pember, Q.C., asked to be allowed to make a proposal on behalf of Messrs. Brunner, Mond, and Co., which they hoped would result in an amicable settlement. They were one of the largest brine-pumping firms at Northwich. They would be willing that the taxation should be limited to 1½d. per ton, and that the maximum should apply to Northwich only, the maximum for the other portions of the district to be 1d. per ton, and the taxation always to be levied in the same proportion under the maximum. He would further suggest that this settlement should be accepted by all parties, with the distinct understanding that should any change be made in the legislation of 1891 or in the conditions of this particular order, all parties should be free to revert to their present positions. Messrs. Brunner, Mond, and Co., were most anxious that the legislation of 1891 should not be lost.

Sir John Brunner said that counsel had accurately represented the views of his firm.

Mr. Dale Hart, speaking for Middlewich, said he was content to rest his case against this Bill on Colonel Ducat's own view that Middlewich had nothing to do with Northwich pumping or damage.

Mr. Balfour Browne then addressed the Committee for the opponents.

Mr. Pope, Q.C., then replied, and said he was anxious above all other things to get some equitable settlement on a very knotty question. The brine pumpers, of course, wanted to be free from all liability, but he advocated, not merely upon the grounds of the configuration of the county, but as a matter of commercial equity, that there should be only one district. The Committee had power to make such a district as they thought proper, and he asked them to use that power rather than reject the Bill altogether.

The Committee suggested that the promoters should accept an order with the boundaries reduced to those of the Northwich district only, and so as to include the subsidences at Billinge Green and Whatcroft.

Time was asked for the consideration of this proposal. At the next sitting of the Court, on Tuesday last, Mr. Pember reminded the Committee of their suggestion that the proposed district should be limited to the Northwich area on a line drawn east and west below Billinge Green. The promoters felt that that would take the district too far south, and they suggested that the southern boundary should be a line drawn east and west through Davenham Church. Certain of the promoters had come to the conclusion that in doing even this they might be taxing the salt interest of Northwich to the extent of 3d. per ton, and they could not pledge themselves that if hereafter they found that a great mistake had been made and a great disaster should happen to the Northwich salt interest, they would not come to Parliament and ask that the mistake should be remedied. Mr. Balfour-Browne, for the brine pumpers; Mr. Freeman, for Winsford; and Mr. Hart, for Middlewich, asked the Committee to decide that the preamble had not been proved beyond the order being made that the area should be reduced to the Northwich district.—The Committee decided that the Bill should be amended so as to limit the boundary of the proposed district to the urban district of Northwich and so much of the rural district as would be comprised within a line to be drawn on the map by the chairman, and passing through Billinge Green and Whatcroft.—Mr. Pember said the promoters would bring up a clause accordingly, and also a clause with regard to the costs of the Act of 1891, and a further clause to provide for the costs of the present inquiry.—Mr. Balfour-Browne protested against placing the costs on the people of Northwich. The promoters had failed in promoting the original order, and the costs of the inquiry had been exceedingly heavy.—The Committee decided to accept the costs clauses as proposed by Mr. Pember.

Correspondence.

* * We do not hold ourselves responsible for the opinions expressed by our correspondents.

UNSOLVED PROBLEMS IN VEGETABLE GROWTH.

(To the Editor of the Chemical Trade Journal.)

SIR,—The article on the "Valuation of manures," in your issue for June 15th, gives a mass of useful information on the practical values of manures as food for plant growth, but the question of the physiogeny of plant life is but little understood by agriculturists. By the above term is meant the operations of nature in the formation of bodies from original elements. A farmer, however, cannot be expected to be a chemist, botanist, and a biologist, and it is therefore the province of these scientific gentlemen to smooth the path for his understanding to grasp and apprehend the facts concerning plant growth. Perhaps a few facts, observations, and experiments the writer has made may add a small quota to the dearth of knowledge on physiogenia.

Let us take a seed, dry in the husk, as for example a "scarlet runner" bean, and observe the chemico-physiogenic action that occurs in the conversion of the seed into a plant.

The seed bean consists of two thick lobes of vegetable matter consisting essentially of the chemical elements, carbon, oxygen, and hydrogen, and just between these lobes at one end is the germ of the future plant. The function of these thick lobes is to supply nutriment to the germ when it has begun to sprout, in much the same way that a woman's breasts supply the new born child with nourishment until it is strong enough to take artificial food. The operations by which these thick lobes carry out these functions are a series of fermentations. Every one knows that when yeast is put into the dough made of flour and water that, given the right temperature, the dough will expand or ferment, such fermentation being caused by the generation of carbon dioxide in the yeast, which, expanding as a gas, causes the dough to "rise" or expand, by the gas endeavouring to escape as fast as it is generated, such generation being due to the union of carbon and oxygen in the yeast, flour, and water.

Now to cause this dough to rise effectually a proper amount of moisture and a sufficiently warm temperature are requisite before such fermentation can be engendered.

An analogous action occurs when you put a seed bean into the ground to grow. If the ground be dry the seed will shrivel up instead of expanding and growing, if the ground be very wet the seed will rot and decay, while if the ground be just sufficiently moist, but not warm enough, the seed will swell in size, the germ will elongate and send a small tap root into the ground, and then all physiogenic action will stop; it ceases for want of the necessary warmth to continue the fermentation process.

Now let us consider this fermentation process in the seed bean a little more minutely. Let us suppose that the mould in which the seed is put is of the requisite temperature and moist enough. These two essentials will act on the cellular structures of the two lobes of the seed in the same way that the warmth causes the yeast to ferment in the making of bread, a union of some of the oxygen from the moisture with some of the carbon constituting the cellular structures of the lobes will take place, gases will be generated, and the lobes will swell out in size; at the same time the chemical nature of this cellular mass will undergo a change into starch and sugar, whereby a mass of cellular tissue will be formed. That is, these apparently solid lobes will be filled with small lobes or cells, the structure of which consists essentially of carbon (the element which gives the solid structure to them) and oxygen and hydrogen—two gaseous bodies. These cells are very rapidly formed. One cell by the imbibition of its requisite components becoming so large that it splits in two, these two cells likewise increasing until they divide into two more cells each, these four cells again grow and divide forming eight cells, and thus at a multiple rate the cellular structure is formed in the once solid lobes. As these fermentation processes proceed, they start a similar action in the germ, which lies between the lobes, and that starts a fermentation process on its own account; but instead of the cellular tissue being formed in every direction it is formed in two only, namely in the formation of a tap root which descends into the ground, and in the development on the two minute leaves that are in embryo in the germ. The fermentation process in the tap root takes place at the extreme tip of it, which is called the spongiolate, so called because this tip is like a sponge, full of holes, in which gases and moisture can be secreted. The function of this spongiolate is to imbibe the gases and moisture necessary for the fermentation of the cellular tissue of the root. Meanwhile, as the embryo leaves are not capable of supplying their own nourishment for the fermentation of cellular tissue, they draw their supplies from the two lobes which at this stage have developed into bodies many times larger than they originally were, and now resemble leaves—they are, in fact, called seed-leaves or cotyledons—and their function is to supply

nutriment to the real leaves which are in embryo until these latter become strong enough to eliminate their requisite chemical constituents from the air. This is the whole of the germination of a seed into a plant.

Now a little reflection will show that if at any stage of the fermentation process the embryo plant does not receive its requisite amount of moisture and warmth it will die or perish, and also if it be supplied with unsuitable food, or a greater quantity than the cellular structure can assimilate, putrefaction will set in, and the young plant perish or become diseased. Every farmer knows that if he gives a too heavy dressing of rank horse manure that it will set up disease in his crops.

Now let us consider the young growing plant. As the tap root elongates by the formation of cells at the end of it, the root becomes stronger and other roots sprout out from its side and perform the same functions. Apparently (I say "apparently" because it is not an established fact) one of the chief functions of the root is to imbibe moisture, which traverses up its structure until it reaches the leaves, while the other function seems to be the imbibition of the suitable nourishment required by the plant. Every plant has its special food, and it is the place of manures or fertilisers to supply the food in a form suitable for assimilation by the roots. This assimilation is undoubtedly a gaseous one, and it is the purpose of manures to so act on the mineral constituents of the soil by setting up chemical changes that the roots of the growing plant shall be able to imbibe or absorb the proper constituents. This they do in a selective manner, rejecting those which are not needed for their constitution. This shows the necessity of applying the right fertiliser to the soil, for a wrong one will injure the plant, just as the wrong medicine to a human being would derange his system. At the same time that the root is receiving its mineral food and moisture from the soil, the leaves also are performing the fermentation process, whereby cellular structure is formed, and as each new cell grows the former one dies, but being made up chiefly of the solid element, carbon, the old cells remain in evidence, and the leaves grow and expand. If you carefully examine the young leaf of a plant or tree you will find behind the edges a series of cells in course of formation, and the increased size of the leaf is caused by the aggregation of cell upon cell at the edges of the leaf, the cellular structure being formed by moisture, oxygen, and also solid carbon. The moisture supplies the hydrogen, the air the oxygen and carbon. These three elements are the sole constituents of the cellular tissue, and as a tissue progresses in growth other chemical re-arrangements take place in these elements, whereby the cellulose of the cellular tissue becomes converted into chlorophyll (which gives the green colour to leaves), and eventually into lignine (which is the woody fibre of the plant).

Now oxygen and hydrogen are the two active principals which generate growth in the plant, which by uniting with carbon in many ways, form the structure of the plant's cellular tissue; but nature does not do her work haphazard, and unless the elements be supplied in proper form and quantity, progress of growth is retarded or stopped. Oxygen seems to be the active life-giving principle, while hydrogen seems to play a dual part by first uniting with oxygen and then these two uniting with carbon, but as soon as the triple alliance takes place the hydrogen is rejected and CO_2 formed. Now CO_2 is a most unstable body, for the oxygen will leave it in part or totally in favour of other bodies, and thus by continually ringing the changes between these three elements cellular tissue is formed. But oxygen, if unrestrained by some neutralising body, enters into combination with other elements so violently as to totally consume the product formed by the union; in other words, combustion takes place, and destruction of the body occurs. It is on this account that nitrogen (azote, as the ancient alchemists called it, because it does not support life) is so valuable a constituent of the air and fertilizers. In fact, the nitrogen in a fertilizer seems to act the part of a "go-between" in setting up chemical reactions in the soil and cellular tissues of the root, whereby a too active union of the plant food does not occur. Nitrogen is a body which readily unites with or forsakes other bodies, thus facilitating chemical reactions, and at the same time, owing to its azotic properties, restraining a too energetic reaction. In conclusion, I give a few facts gained from some experiments made with a view to determining the part oxygen plays in plant growth, and the necessary conditions for the germination process to proceed:—

(a) I planted some oats in perfectly dry silver sand, yellow sand, and red sand. They all failed to sprout or germinate.

(b) I also planted some oats in moist silver sand, yellow sand, and red sand.

Those in silver sand germinated. The tap root formed, and the seed withered up without further development. The oats in the moist yellow sand germinated. The tap root germinated about one inch, and the first spatha grew nearly an inch above the surface. Then the oat languished and died. The oats in the red sand germinated and sent a tap root down about two inches, and formed a second spatha round the blade of grass, which also grew about two inches above the soil, and then they withered and died. The facts to be deduced from

experiments are these:—The sand in each case was well washed before use, so that only the actual sand should be the food or soil surrounding the tap root. Now, silver sand is essentially yellow sand is the same, but coloured yellow by a certain proportion of oxide of iron, while red sand owes its deeper colouration to a proportion of oxide of iron. Again, oxides of iron are very soluble bodies which readily imbibe, or part with oxygen under conditions, therefore it is noticeable that the sand which contained the largest quantity of oxygen supported the plant growth the best, and that which contained no oxygen refused to support it at all. The germination of the oat in this case was simply due to the air in the sand starting a fermentation process in the cellulose of the leaves, whereby germination was started, but as the spongiolae did not find the necessary elements of nutrition in the soil, the plant withered up as soon as its own supply of cellulose was exhausted. The fermentation process must be carried on in still air, or in a vacuum of surrounding atmosphere. Every mushroom grower knows the results of disturbing the bed or admitting a current of cold air. The spawn has started its filaments through the soil. But I must further discuss on this point for a future letter.

W. H. Hill, Birmingham.

H. C. STANDAGE.

Trade Notes.

RENT VICTORIA STONE COMPANY.—The directors have declared a dividend at the rate of 10% per annum, being 5% for the year ended June 30th.

ACCIDENT AT A BLAST FURNACE.—Last week a terrible explosion occurred at Etruria Blast Furnaces, North Staffordshire, by which four men lost their lives.

DEATH OF A YOUNG MAN.—It is with deep regret we have to announce the death of a young man, Huxley, at his residence at Eastbourne, on Saturday last. He was born at Ealing in 1825.

LIQUID CO₂ PRODUCTION.—A plant with a capacity of from three to one ton per day has been put down at Königsberg for the production of liquid carbonic acid.

WORK IN THE TINPLATE TRADE.—Nearly all the tinplate works in Swansea, Morriston, and Llanelly district have stopped owing men having demanded the 1874 wages list. About 30,000 hands are affected.

ACETYLENE AT TENPENCE PER THOUSAND.—Mr. Willson, who has secured patents for the manufacture of calcium carbide, claims to be able to make acetylene of 25 candle power at the above price. It is a large order. It is not unlikely that the public will soon be able to subscribe the money to enable him to do this on a manufacturing scale.

MR. GALLOWAYS, LIMITED.—It will perhaps be a surprise to our readers to learn that this firm figures in the list of companies to be wound up. It is hardly necessary, however, to explain the winding up is voluntary, and merely for the purposes of retraction. In fact, they are "winding up" in a different way to usually understood by financiers, but very familiar to watchmen.

SMALLEST COMPANY ON RECORD.—Under a winding-up order made on the 22nd May, against the Anglo-Italian Produce Company (Limited), which is stated to be the smallest company on record, it has been submitted showing the liabilities to be £57., and consisting of an iron safe said to be the property of the company, the estimated value of £2.; the total deficiency, as regards creditors, being £319. It appears from the observations of the Senior Receiver (Mr. C. J. Stewart) that the company was registered under articles of association in February, 1891, and was formed in that the shareholders might obtain the benefit of co-operation in the chase of produce, principally Italian, of which the majority were Italians. There is some doubt as to the composition of the board of directors, but seven gentlemen, whose names the Official Receiver is referred to as directors in the only prospectus issued. No appointment of secretary has been made, but various gentlemen, and others, appear to have acted in that capacity from time to time. During the last two years the post seems to have been entirely neglected.

The Official Receiver states that the only business actually done by the company was the purchase and resale of a few tons of salt. This produced an apparent profit, but, owing to bad debts and through the indiscriminate way in which credit was given, no profit was made. The only Italian business attempted was the importation of a small parcel of fruit from Messina, which resulted in a loss of £40. The fruit, which was paid for in advance, was partly sold in transit and thrown overboard, and the remainder was sold to carriers to pay the freight. Although two meetings of the board were held in 1893 and one in 1894, no real business seems to have been done since 1892.

THE ADVANCE IN NAPHTHA.—The Scotch mineral oil trade, at a private meeting in Glasgow, on Thursday, resolved to advance at once the price of naphtha from 6d. to 7d. a gallon, and that from the end of August the price should be advanced another penny per gallon, to 8d. The latter will be the winter price, and will constitute a rise of 100 per cent. on last year's price.

RUSSIAN PETROLEUM SHIPMENTS.—The following are the petroleum exports from Batoum for the week ended the 15th ult.:—Refined Petroleum: To Europe, 550,000 poods; to the East, 85,000 poods; to the interior of Russia, 204,000 poods. Naphtha residuum: To Europe, 45,000 poods; to the East, 1,000 poods; to the interior of Russia, 6,000 poods. Other Naphtha products: to Europe, 153,000 poods.

THE PROPOSED NEW PACIFIC CABLE.—The reduction in the interim dividend of the Indiarubber and Guttapercha Company from 5 to 2½ per cent. has caused much discussion lately. It is pointed out, however, that tenders were invited some time ago for the new Pacific cable, and although nothing has yet been finally decided, the tender of the Indiarubber Company was the lowest, and has every prospect of being accepted. It is probably in order to retain as much cash in hand as possible, in case they get the contract for laying the cable, that the directors have reduced the usual interim distribution; and, if this be so, shareholders need have no anxiety for the future.

THE SALFORD CORPORATION'S SLUDGE STEAMER.—At a recent meeting of the River Irwell Conservancy Committee of the Salford Corporation it was reported that judgment had been given by the Vice-chancellor of the Chancery Court of Lancashire in the action *The Ship Canal Company v. The Corporation*, and that it was held that the Corporation were entitled to convey sludge along the canal without payment of any toll, but that the Corporation were not entitled to use more than 100 feet of the wharf, nor to lay the proposed 18-inch sewer through the land of the Company for loading the sludge ship. It was further reported that at a later meeting that the application of the Corporation for an interim injunction to restrain the Canal Company from the reasonable use of the Corporation wharf had been granted by Mr. Justice Stirling, pending the hearing of the action, and that in pursuance of this injunction the Canal Company had removed the barges which obstructed the wharfage of the steamer. A motion was adopted instructing the Borough Engineer (Mr. Corbett) to make arrangements for carrying out a scheme suggested by him for filling the sludge steamer by means of horses and carts.

WOOD PULP VIA THE SHIP CANAL.—Large quantities of wood pulp and other materials used in the manufacture of paper continue to arrive via the Ship Canal, so that this important trade may now be said to be permanently established on a secure basis. During the week ending on the 26th ult. Messrs. Felber, Jucker, and Company's steamer *Rose* discharged 3,470 bales of wood pulp from Kotka, 3,026 bales arrived from Christiania, and regular weekly boat brought 103 bales from Rotterdam. Of the 943 bales of wood pulp boards which are reported as having arrived in the United Kingdom from foreign ports during the week, no less than 739 bales came to this port, the *Rose* bringing 664 from Helsingfors, the Hamburg steamer 13, and the Christiania boat 62. The Cork Steamship Company's steamer from Antwerp brought a consignment of rags. In addition to these raw materials the *Rose* brought nearly 300 tons of paper from Finland, imported by the owners. This vessel had a slight collision in the canal with the steamer *Oxford*, of Hull; but the injuries sustained were trifling, and she left again for the Baltic last week with a full cargo of salt and general merchandise. She will again load at the Finnish ports with timber, paper, and wood pulp for Manchester. A full cargo of wood pulp arrived during the latter portion of last week per the steamer *Oxus*, from the Baltic and several other cargoes are on passage.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols keep steady, with virtually no change, 90's being quoted 1s. and 50/90's 11½d. Carbolic acids are firm, with a tendency to increased steadiness in 60% crude, which is quoted 1s. 8d.; crystals, 40%, are the same as last week at 6½d. Crude naphtha still stands at 5½d., but solvent is the turn easier at 1s. 1d. Creosote and anthracene unaltered. Pitch steady at 37s. to 37s. 6d., f.o.b. East Coast.

Sulphate of ammonia is quiet, but fairly steady. Values have been maintained pretty well. Buyers have been more disposed to move, while the small quantity offering, combined with the decrease in second hand sales, has helped to steady the market. Current values are:—London £9. 15s., Liverpool £9. 15s., Hull £9. 15s., and Leith £9. 12s. 6d.

REPORT ON MANURE MATERIAL.

The market continues very quiet, and prices remain much as last reported. Mineral phosphates are unchanged. Florida 75/80% rock is quoted 6½d. per unit, and Peace River rock 6d. per unit, in cargoes, c. i. f. to good United Kingdom ports. South Carolina River rock offers at 5½d. per unit, and Algerian of similar grade may be had at about the same price. River Plate bones are inquired for, and cargoes of handy size, summer shipment, are worth £4 5s. per ton, delivered good United Kingdom ports. Crushed Kurrahee bones are quoted £4 7s. 6d. per ton, and Bombay bone meal £4 10s., autumn shipment, but no recent business is reported, and the quotations are rather above buyers' idea of value. Nitrate of soda is quiet, but fairly steady at 8s. 1½d. to 8s. 3d. per cwt. on spot. Autumn shipments are worth 8s. 4½d. to 8s. 6d. per cwt., but at the moment there is not much doing in the forward position.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade the values of all leading products are steady, and there is a fairly good demand for export. Bleaching powder, spot delivery, £7 5s. to £7 10s., f.o.b., hardwood, and £7 softwood, on rails, at makers' works in Lancashire. Alkali, 58%, remains at £2 17s. 6d. to £3 per ton, bags, f.o.r., both for prompt and forward delivery. Soda ash 1d. per degree, in casks, f.o.b. Caustic soda without change, and current quotations are as follows:—F.o.b. Liverpool, 77%, £9 7s. 6d.; 74%, £8 7s. 6d.; 70%, £7 10s.; 60%, £6 10s. per ton, 10-ton lots and upwards. Chlorate of potash, 4¾d. per lb.; chlorate of soda, 6¾d. Sulphur, £3 12s. 6d. per ton, f.o.r. Saltcake in fair demand at 15s. to 17s. 6d. per ton, f.o.r., makers' works, in bulk. Business still continues fairly active in sulphate of copper, and price at £15 to £15 5s. per ton, f.o.b. Potash, caustic and carbonate, are steady in value and in fair request. Yellow Prussiate of potash dull at 7½d. to 7¾d. per lb. White powdered arsenic scarce, and price firm at £15 nett, f.o.r. Garston. Acetates of lime, brown and grey, are unchanged in values, and without any improvement in demand. Other acetates are also quiet. Nitrate of soda a steady market at £8 2s. 6d. per ton, prompt and forward. The position of the trade in chemicals generally is without improvement.

THE METAL MARKET.

LONDON, WEDNESDAY.—Pig iron, steady: Scotch warrants closed at 43s. 3d. Middlesbrough 35s. 10d. cash, and hematite 44s. 4d. Copper, firm: Chili bars, G. O. B.'s and G. M. B.'s, closed at £42 8s. 9d. to £42 13s. 9d. cash, and £42 15s. to £43 three months. Tin, steady: Straits closed at £63 10s. to £64 cash, and £63 15s. to £64 5s. three months; Australian, £64 5s.; English ingots, £67. Lead, firm: Spanish, £10 6s. 3d.; English, £10 7s. 6d. to £10 10s. Silesian spelter, ordinary, £14 15s. Nickel, 1s. 1½d. Antimony, £32. Quick-silver: first hands, £7 10s.; second hands, £7 8s. Copper shares, steady: Cape, 1¼ to 2¼; Copiapo, 2 to 2½; Libiola, 3¼ to 3½; Mason and Barry, 2½ to 2¾; Rio Tinto, 15½ to 15¾; Tharsis, 4½ to 4¾.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil on the whole is quiet. There has, however, been a fair amount of business doing at £20 10s. for Lagos, both on spot and for arrival. Olive keeps in moderate demand, without any change in prices. Linseed is quieter again, Liverpool makes in export casks being quoted 22s. 6d. to 23s. per cwt. Cottonseed is rather dull for home qualities, Liverpool refined being quoted 18s. to 18s. 6d., but American is firmer at the same prices. Castor oil is rather neglected, good seconds Calcutta offering at 2½d. to 2¾d., spot, and first pressure French, 2½d. to 2¾d. per lb. Tallow is in fairly good demand, but the general tone of the market is quiet. Resin keeps dear, common moving fairly well at 4s. 1d. to 4s. 3d. per cwt., medium and fine grades are steady. Spirits of turpentine are slightly easier, there being sellers at 22s. 6d. per cwt., with a moderate inquiry. Petroleum is steady, with American 6¼d. to 8½d., according to quality, and Russian refined 6d. per gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10, medium, £12, best, £15. Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead unchanged. Venetian red, £6 to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7; medium, £10; finest, £20. Zinc oxide, £22 10s. to £25.

LIVERPOOL MINERAL MARKET.

The market this week has been somewhat quiet, chiefly in consequence of the half-yearly stocktaking, buyers operating only for such quantities as they cannot absolutely do without. Manganese: There are no arrivals to report this week. Ground manganese is unchanged, the demand continuing good at £6, £8, £10, and £12 10s. per ton, according to quality. Manganiferous iron ore continues very quiet, without any alteration in prices, which remain at 15s. to 17s. 6d. per ton, c.i.f., in cargoes. Bauxite: Irish Hill brands continue in good demand, both for alum and aluminium metal purposes, at 20s. per ton for first quality, 16s. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. Chrome ore: There have been some arrivals this week, but as they were sold for forward delivery they have all gone direct into consumption, and therefore the prices remain firm at £5 10s. per ton for prime high strength ore, and 70s. to 75s. per ton for other qualities. French chalk: Arrivals are very small this week, but prices continue firm at 65s., 70s., and 77s. 6d. for "Angel White" brands, and 90s. to 110s. per ton for "Gold Medal" brands. Plumbago still continues in good demand at £6 to £8 10s. per ton, with other grades in proportion. Barytes: Carbonate is in rather quiet demand at 70s. for small and 85s. to 110s. per ton for lump, according to quality; sulphate is without change, the demand for both lump and powdered being steady—prices for powdered are firm at: No. 1, 60s., No. 2, 55s., and No. 3, 47s. 6d. to 50s. per ton. Fuller's earth is in increasing demand, especially the high class qualities: lump, 50s. to 55s. per ton; ground about 55s. per ton; impalpable powder, 80s. per ton. Ochres and umbers remain firm without change: J.C. ochre being done at 60s. per ton, and prime levigated umber at 40s. to 60s. per ton, f.o.r.

TYNE CHEMICAL REPORT.

TUESDAY

The chemical market remains unaltered, the business being steady and quiet. Soda crystals, £1 17s. 6d. per ton gross weight, locally. Caustic, 76/77%, £9 5s. to £9 10s. Bleaching powder, £7 to £7 5s. Sulphur, £3 17s. 6d. per ton.

Bleaching powder, softs, £7 5s. per ton, nett; hards, £7 10s. per ton, nett; caustic soda, 76/77%, £9 10s. per ton, nett; do., 70%, £7 13s. per ton, nett; recovered sulphur, 2 cwt. bags, £3 17s. 6d. per ton, nett; soda ash, 48%, £3 12s. 6d. per ton, nett; do., 52%, £3 17s. 6d. per ton, nett; do., 56%, £4 10s. per ton, nett; alkali, 36%, £2 15s. per ton, nett; white alkali, 48%, £4 10s. per ton, nett; do., 50%, £4 15s. per ton, nett; do., 52%, £5 5s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6 per ton, nett; do., 1 cwt. kegs, £6 12s. 6d. per ton, nett; silicate of soda, 75° Tw., £2 12s. 6d. per ton, nett; do., 100° Tw., £3 per ton, nett; do., 140° Tw., £3 7s. 6d. per ton, nett; soda crystals, casks, £1 17s. 6d. per ton gross weight; do., 2 cwt. bags, £1 17s. 6d. per ton, nett; chlorate of potash, 5¼d. per lb., less 6%; pearl hardening, £3 per ton, nett; pure white sulphate of alumina, £4 2s. 6d. per ton, nett; blanc fixe, £7 10s. per ton, nett; chloride of barium, £7 10s. per ton, nett; carbonate of alumina, £28 15s. per ton, nett; aluminate of soda, £33 15s. per ton, nett; in 5 ton lots, £28 10s. per ton, nett.

SALT.—South Durham salt is steady, at 9s. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—The coal trade is steady, with very little alteration in price. A fair volume of business is passing. Best Northumbrian steam, 8s. 9d. to 9s. per ton; second quality ditto, 7s. 9d. to 8s. per ton; small steam, 3s. 3d. to 3s. 6d. per ton; gas coals, 6s. 3d. to 7s. per ton; coke steady, 12s. 6d. to 14s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

There is a decided added weakness in sulphate of ammonia to record this week. It is reported, and generally believed, that as low as £9 11s. 3d. was in one instance accepted towards the close of last week, but it is understood that the lot was an admittedly inferior one. Some makers are firmer than others, and these say that a really good male cannot at present be had in this market for less than £9 15s.; but the true actual value (for approved quality) seems to rest at about £9 13s. 9d. There is nothing on report as to forward. Dye chemicals and colour dysaleries are in fair demand, and the Scotch calico printing works are rather busy again, after a period of slackness. Indigo has advanced, also logwood, the latter about 5s. per ton. The position of the ordinary manufacturing chemicals has not improved, though prices stand pretty steadily at about the old quotations. There is little of improvement looked for till towards the close of July, after the operative holidays, when stocks may be found thinner and new

is a little more plentiful. Mineral oils and paraffin are un-
 ged.

ief prices current are:—Soda crystals, 35s. to 37s. 6d. nett, Tyne; ash, 48/52°, £3. 15s. to £4. 10s. nett, Tyne; white alkali, £4. 10s. to £5. 5s. nett, Tyne; alum in lump, £5. 10s. nett, row; caustic soda, white, 74° 59., 70/72° £7. 15s., 60/62° 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching er, £6. 5s. to £7., nett, Tyne; saltcake, 17s. 6d.; borax, English d, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; omate of potash, 4½d. nett, for Scotch and English deliveries (for t, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¼d. nett, for h and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); ate of potash, 5d. less 5%, Liverpool; nitrate of soda, 8s. 3d. to l.; sulphate of ammonia, £9. 12s. 6d. to £9. 15s. prompt f.o.b. Leith; moniac, first and second white, £39. and £37. nett, any port; ate of copper, £15. 12s. 6d., less 5%, Liverpool; paraffin scale, hard, and soft, 1½d. to 2½d. per lb.; paraffin wax 120° semi-refined, to 2¾d.; paraffin spirit (naphtha), 6d. per gallon; paraffin burning), No. 1 6½d., and crystal 6¾d., at works, for h buyers (English sales rd. lower); ditto (lubricating) 86½, s.; 88½° £4. 10s. to £5., and 89½/89½° £5. to £5. 10s. Week's rts of sugar at Greenock were 142,256 mats and 34,143 bags cane ined, 9,800 bags beet unrefined, and 3,220 bags beet refined.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

L.—Business continues steady, but prices have a tendency to fall. stocks of seed in Hull are: June 30th, Linseed, 9,777 qrs. against 31st, 2,309 qrs.; rapeseed, 4,030 qrs. ending June, against 3,550 ending May; cottonseed, 3,965 tons, ending June, against 2,227 ending May. The imports for the month have been: Linseed, 0 qrs.; rapeseed, 17,281 qrs.; cottonseed, 12,955 tons. Linseed about 10s. per ton lower, 20s. 3d. having been accepted spot; August 20s., and September-December 19s. to 19s. 1½d. Boiled refined, £1. to £2. per extra. The export for the week has 2,440 cwt. Refined cotton oil is quiet at 16s. 3d. to 16s. 1½d., l spot. July-August, 16s. 6d., sellers November-April, 16s. 9d., ditto., on the spot, offers at 14s. 6d., casks, 17s. 6d., and ordinary s, 27s. 6d. per ton extra. The export of refined for the week een 2,760 cwt. It is anticipated that the revised German tariff perate severely against their buying in this market, the margarine cers hitherto proving good customers, other oils are unchanged. KES.—Linseed cakes dull: 95% pure, £5. 17s. 6d. to £6. per Russian, £5. 17s. 6d. Oil cakes, £5. 2s. 6d. to £5. 7s. 6d. n cakes, remain in small request: best makes, £3. 17s. 6d. to £4.; ds, £3. 15s. Rape cakes unchanged.

PAINTS.—Manufacturers find plenty of orders and are again very busy. Ready mixed paints in lever tins from £24. per ton. White and red leads unchanged, Venetian red, oxide of iron, black, blue, green, and yellow ochre paints from £12. per ton. Paint remover, from 25s. to 30s. per cwt. Vermillionettes quoted from 4d. per lb. Ultramarines, from 3d. to 8d. per lb. Lime blue, £16. per ton Imperial black varnish, £5. per ton in barrels. Oak varnish from 5s. 6d. per gallon.

New Companies.

Indus Valley Bone Mill Company, Ltd.—CAPITAL £10,000. in shares of £10. each. This company has been formed to trade in and manufacture bone produce in British India and elsewhere. The subscribers to the memoranda of association are:—J. H. Graham, 55, Cathedral-street, Glasgow, merchant; David Graham, 55, Cathedral-street, Glasgow, merchant; J. N. Graham, 55, Cathedral-street, Glasgow, merchant; F. Graham, Parsee Bazaar-street, Bombay, merchant; James McInnes, 55, Cathedral-street, Glasgow, merchant; A. MacMillan, 55, Cathedral-street, Glasgow, merchant; James Highgate, 55, Cathedral-street, Glasgow, secretary.

Westfield Paper Company, Ltd.—CAPITAL £52,000., in 3,000 cum. pref. and 2,200 ordinary shares of £10. each. This company has been formed to acquire and carry on the papermaking business now being prosecuted at Westfield, Linlithgowshire. The subscribers to the memorandum of association are:—J. Macnab, Glenmavis, Bathgate distiller; J. W. Stuart, Westfield, Linlithgowshire, paper maker; P. Murray, Edinburgh, W.S.; W. C. Johnston, Edinburgh, W.S.; T. P. Gillespie, Edinburgh, C.A.; C. Chalmers, Lochmill, Linlithgow, paper maker; T. Chalmers, Edinburgh, W.S.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

T. SYKES, W. SYKES and R. COOPER, soap manufacturers and drysalers, Huddersfield, under the style of Sykes, Sons and Co., so far as regards R. Cooper.

R. D. JENKINS and A. D. LLEWELLYN, oil merchants, Cardiff, under the style of Jenkins and Llewellyn.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Orders.

PAGE, WILLIAM, and JAMES, WILLIAM HENRY, trading as the City Oil Company, Birmingham, oil refiners and merchants.

PATEMAN, JAMES. PATEMAN, ALFRED, and PATEMAN, ARTHUR, trading as J. Pateman and Sons, High-street, and St. John's-road, S. Norwood, S.W., oil and colour men.

IMPORTS OF CHEMICAL PRODUCTS

AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.				LONDON.			
Week ending June 22nd.				Week ending June 22nd.			
ate of Lime—				ate of Lime—			
states, 808 pkgs.	Lister & Biggs			states, 808 pkgs.	Lister & Biggs		
e Acid—				e Acid—			
and, 20 pkgs.	Phillipps & Graves			and, 20 pkgs.	Phillipps & Graves		
and, 50	A. & M. Zimmermann			and, 50	A. & M. Zimmermann		
i—				i—			
ida, 35 c.	J. Barber & Co.			ida, 35 c.	J. Barber & Co.		
and, 25 pkgs.	H. Wallace & Co.			and, 25 pkgs.	H. Wallace & Co.		
inium—				inium—			
any, £17	H Lambert			any, £17	H Lambert		
ony Ore—				ony Ore—			
ralia, 23 t	F. Williams			ralia, 23 t	F. Williams		
agal, 50	J. Bamber			agal, 50	J. Bamber		
tic—				tic—			
any, 20 pkgs.	City Coml. Wf.			any, 20 pkgs.	City Coml. Wf.		
ce, 23	F. Stahlschmidt & Co.			ce, 23	F. Stahlschmidt & Co.		
stos—				stos—			
£325	J. Knill & Co.			£325	J. Knill & Co.		
any, 11	W. Newbold & Co.			any, 11	W. Newbold & Co.		
any, 11	Craven & Co.			any, 11	Craven & Co.		
any, 935	W. Byford			any, 935	W. Byford		
m Chloride—				m Chloride—			
any, 23 pkgs.	Petri Brs.			any, 23 pkgs.	Petri Brs.		
tes—				tes—			
orm, 96 cks.	J. L. Lyon & Co.			orm, 96 cks.	J. L. Lyon & Co.		
and, 23	O'Hara & Hoar			and, 23	O'Hara & Hoar		
Germany, 23				Germany, 23			
Holland, 99	J. M. Steel & Co.			Holland, 99	J. M. Steel & Co.		
France, 100	F. W. Berk & Co.			France, 100	F. W. Berk & Co.		
Holland, 4 cs.	E. Merck			Holland, 4 cs.	E. Merck		
Caustic Soda—				Caustic Soda—			
Holland, 2 c.	E. Merck			Holland, 2 c.	E. Merck		
Chemicals (otherwise undescribed)				Chemicals (otherwise undescribed)			
Germany, £10	Elkan & Co.			Germany, £10	Elkan & Co.		
Denmark, 15	Bailey & Leatham			Denmark, 15	Bailey & Leatham		
Germany, 8	W. G. Blagden			Germany, 8	W. G. Blagden		
" 13	Phillipps & Graves			" 13	Phillipps & Graves		
" 17	Craven & Co.			" 17	Craven & Co.		
" 61	T. H. Lee			" 61	T. H. Lee		
" 74	A. & M. Zimmermann			" 74	A. & M. Zimmermann		
Belgium, 22	T. Palmer			Belgium, 22	T. Palmer		
Cream of Tartar—				Cream of Tartar—			
Italy, 8 pkgs.	Thames S. T. & L. Co.			Italy, 8 pkgs.	Thames S. T. & L. Co.		
France, 5	F. C. Devon & Co.			France, 5	F. C. Devon & Co.		
Holland, 5	B. & F. Wf. Co.			Holland, 5	B. & F. Wf. Co.		
Spain, 10	Kirkpatrick & Co.			Spain, 10	Kirkpatrick & Co.		
France, 5	W. C. Bacon & Co.			France, 5	W. C. Bacon & Co.		
Dextrine—				Dextrine—			
Germany, 100 pkgs.	Seaward Brs.			Germany, 100 pkgs.	Seaward Brs.		
" 200	W. Balchin			" 200	W. Balchin		
" 100	Hernu, Peron			" 100	Hernu, Peron		
" 40	Pronk, Davis & Co.			" 40	Pronk, Davis & Co.		
Dyestuffs—				Dyestuffs—			
Annatto				Annatto			
E. Indies, 23 pkgs.	Brown & Elmslie			E. Indies, 23 pkgs.	Brown & Elmslie		
Denmark, 10	Sorensen & Co.			Denmark, 10	Sorensen & Co.		
Anthracene				Anthracene			
Holland, 170 pkgs.	Burt, Boulton & Co.			Holland, 170 pkgs.	Burt, Boulton & Co.		
Argols				Argols			
Italy, 1,853 pkgs.	B. Jacob & Sons			Italy, 1,853 pkgs.	B. Jacob & Sons		
" 28	Thames S. T. & L. Co.			" 28	Thames S. T. & L. Co.		
Divi Divi				Divi Divi			
E. Indies, 87 pkgs.	Brown & Elmslie			E. Indies, 87 pkgs.	Brown & Elmslie		
Extracts				Extracts			
France, 14 pkgs.	W. H. Mitchell			France, 14 pkgs.	W. H. Mitchell		
" 3	Bennett S. S. Co.			" 3	Bennett S. S. Co.		
" 75	Union L. Co.			" 75	Union L. Co.		
Denmark, 37	Bailey & Leatham			Denmark, 37	Bailey & Leatham		
France, 20	T. H. Lee			France, 20	T. H. Lee		
U. States, 10	W. Burton & Sons			U. States, 10	W. Burton & Sons		
Jamaica, 21	L. & I. D. Jt. Co.			Jamaica, 21	L. & I. D. Jt. Co.		
Denmark, 13	R. J. Fullwood & Co.			Denmark, 13	R. J. Fullwood & Co.		
Gambler				Gambler			
Germany, 400 pkgs.	Brown & Elmslie			Germany, 400 pkgs.	Brown & Elmslie		
E. Indies, 241	L. & I. D. Jt. Co.			E. Indies, 241	L. & I. D. Jt. Co.		
Sydney, 229	Union L. Co.			Sydney, 229	Union L. Co.		
Indigo				Indigo			
E. Indies, 3 chts	Cayzer, Irvine & Co.			E. Indies, 3 chts	Cayzer, Irvine & Co.		
" 30	Ross & Deering			" 30	Ross & Deering		
" 30	Walker, Munsie & Co.			" 30	Walker, Munsie & Co.		
" 17	Park, Macfadyen & Co.			" 17	Park, Macfadyen & Co.		
" 145	L. & I. D. Jt. Co.			" 145	L. & I. D. Jt. Co.		
" 27	Elkan & Co.			" 27	Elkan & Co.		
" 8	Arbuthnot, Latham & Co.			" 8	Arbuthnot, Latham & Co.		
" 8	G. S. N. Co.			" 8	G. S. N. Co.		

aux, 3 cks. R. J. Francis & Co.
ric Acid—
 illes, 19 cs. 4 brls.
 dam, 5 4
 urg, 2 cks
e—
 ork, 50 brls.
 h, 50
h—
 dam, 2 cks.
ris—
 aux, 4 cks.
Lead—
 dam, 13 cks.
 rp, 15
Pulp—
 eal, 4,775 bds. A. Rice & Co.
 dam, 198 bls.
 burg, 170
 ania, 1,958
 al, 3,160
 790
chloride—
 ay, 1 ck.
xide—
 ork, 50 brls.
 dam, 100 cks.
 rp, 45
ulphate—
 a, 24 cks.

NCHESTER.

Week ending June 22nd.

Acid—
 dam, 26 blns.
ea—
 3 cks.
ony Salts—
 dam, 1 ck. Wilson Son, & Co.
 urg, 2
os—
 dam, 1 cs. Wilson Son, & Co.
n Chloride—
 dam, 4 cks. Wilson, Son, & Co.
als (otherwise undescribed)
 aux, 50 cks. J. & P. Hutchison
 17
 dam, 17 cs. 15 bxs. 19 brls. Wilson, Son, & Co.
 rp, 10
 dam, 15 cks 3 bxs. 8 brls.
ffs—
 dam, 29 cks. Wilson, Son, & Co.
arine—
 dam, 29 cks. Wilson, Son, & Co.
facts
 aux, 100 cks. J. & P. Hutchison
ie—
 10 cs.
 34 cks.
 dam, 325 bgs. Wilson, Son, & Co.
 arg, 40 6 cks.
 dam, 25
 dam, 10 cks. Wilson, Son, & Co.
ge—
 dam, 20 cks. Wilson, Son, & Co.
nese Ore—
 arg, 50 bgs.
 dam, 1 pcl. Wilson, Son, & Co.
 dam, 1 ck. Wilson, Son, & Co.
Fluoride—
 arg, 1 ck.
 dam, 220 cs. Wilson, Son, & Co.
 rp, 366
 arg, 290 16 cks.
ric Acid—
 dam, 10 cks. 10 dms.
 421 bgs.

Tar Salt—
 Hamburg, 7 cks.
Tartar—
 Bordeaux, 2 cks. J. & P. Hutchison
Tartaric Acid—
 Rotterdam, 3 brls. Wilson, Son, & Co.
 " 12 cks. J. & P. Hutchison
Ultramarine—
 Rotterdam, 5 cs. Wilson, Son, & Co.
 Hamburg, 20 cks.
Waste Salt—
 Hamburg, qty.
White Lead—
 Rotterdam, 14 cks.
Wood Pulp—
 Wyburg (Barrow), 434 fms. Dessin Brs.
 " 536½ Kellner-Partington P. P. Co., Ltd.
 Rotterdam, 103 bls
 Kotka, 3,470 Feller, Jucker, & Co.
 Christiania, 3,026
 Gefle, 5,675 M. S. Canal Co.
Wood Spirit—
 Hamburg, 12 dms.
Zinc Chloride—
 Rotterdam, 8 cks.
Zinc Sulphate—
 Rotterdam, 5 brls.

HULL.

Week ending June 22nd.

Acetic Acid—
 Rotterdam, 1 ck. Hutchinson & Son
Acid—
 Rotterdam, 2 cks. Hutchinson & Son
 Bari, 32 Wilson, Sons, & Co., Ltd.
 " 6
Arsenic—
 Hamburg, 150 pks. Wilson, Sons, & Co., Ltd.
Barium Chloride—
 Bremen, 20 bgs.
Barytes—
 Antwerp, 139 cks. Bailey & Leatham
 Rotterdam, 22 Hutchinson & Son
 " 26 W. & C. L. Ringrose
Cellulose—
 Hamburg, 50 bds. Wilson, Sons, & Co., Ltd.
Chemicals (otherwise undescribed)
 Stettin, 6 cks 28 brls. Wilson, Sons, & Co., Ltd.
 Hamburg, 4 kgs Veltmann & Co.
 Bremen, 3 kgs Veltmann & Co.
 Antwerp, 10 brls. 40 pks. Wilson, Sons, & Co., Ltd.
 Dunkirk, 76 cks. 21 dms. Wilson, Sons, & Co., Ltd.
Cod Oil—
 Christiansund, 30 brls. Wilson, Sons, & Co., Ltd.
 Aalesund, 50
 Bergen, 50
Colours—
 Ghent, 12 cks. Wilson, Sons, & Co., Ltd.
 Hamburg, 10 W. & C. L. Ringrose
 Amsterdam, 2
 Danzig, 15 84 pks. W. & C. L. Ringrose
 Rotterdam, 4
 Antwerp, 12 Wilson, Sons, & Co., Ltd.
 Rotterdam, 9 Hutchinson & Son
Dyestuffs—
 Rotterdam, 19 pks. W. & C. L. Ringrose
 " 35 brls. 2 bxs. Hutchinson & Son
Argols
 Bari, 5 cks. Wilson, Sons, & Co., Ltd.
Fustic
 Trieste, 20 t. Wilson, Sons, & Co., Ltd.
Indigo
 Trieste, 1 ck. Wilson, Sons, & Co., Ltd.

Sumac
 Trieste, 69 bgs. Wilson, Sons, & Co., Ltd.
 Palermo, 1,697
 " 1,050
 Cyprus, 343 G. R. Sanderson & Co.
Valonia
 Smyrna, 1,088 bgs.
Farina—
 Stettin, 600 bgs. Wilson, Sons, & Co., Ltd.
 Ghent, 301 bxs 40 cs. "
 Harlingen, 50 bgs. "
 Dunkirk, 20 "
Glucose—
 New York, 300 brls.
 Stettin, 40 kgs.
 Rotterdam, 40 bgs. Hutchinson & Son
Glue—
 Stettin, 23 cks.
 Christiansund, 2 pkgs. Wilson, Sons, & Co., Ltd.
 Hamburg, 10 bgs. Sparkuhl & Steinle
 Antwerp, 20 Wilson, Sons, & Co., Ltd.
Manganese Oxide—
 Rotterdam, 2 cks. Hutchinson & Son
Naphthol—
 Rotterdam, 1 ck. W. & C. L. Ringrose
Nitrate of Lead—
 Antwerp, 16 cks. Bailey & Leatham
Ochre—
 Rouen, 159 cks.
Paint—
 Marseilles, 30 cs. Wilson, Sons, & Co., Ltd.
 Stockholm, 83 pks. G. D. Webster & Son
Phosphate—
 Ghent, 500 bgs. Wilson, Sons, & Co., Ltd.
Pitch—
 Danzig, 48 cks.
Plumbago—
 Hamburg, 38 cks. F. B. Grotrian & Co.
Pumice Stone—
 Messina, 16 cs. 10 bgs. 447 pks. Wilson Sons, & Co., Ltd.
Rosin—
 Wilmington, 2,477 brls.
Soap—
 Trieste, 1 cs. Wilson, Sons, & Co., Ltd.
 Bari, 64
 Molletta, 250 bxs. "
Starch—
 Rotterdam, 100 cs. 40 cks. Hutchinson & Son
 Bremen, 2 262 Veltmann & Co.
 20
Stearine—
 Antwerp, 24 bgs. Wilson, Sons, & Co., Ltd.
Sulphur—
 Catania, 1,340 pks. Wilson, Sons, & Co., Ltd.
 " 1,552
Talc—
 New York, 1,154 bgs. Wilson, Sons, & Co., Ltd.
Tallow—
 Melbourne, 42 cks.
Tar—
 Wilmington, 2,009 brls.
Tartaric Acid—
 Rotterdam, 8 cks. W. & C. L. Ringrose
Treacle—
 New York, 225 brls. Wilson, Sons, & Co., Ltd.
 Dunkirk, 1 cs. "
Turpentine—
 Savannah, 2,870 brls. Plimpton & Smith
 Trieste, 3 4 cs. Wilson, Sons, & Co., Ltd.
Ultramarine—
 Bremen, 8 cks.
 Rotterdam, 4 Hutchinson & Son
Varnish—
 Riga, 1 ck. Veltmann & Co.

White Lead—
 Amsterdam, 48 cks. J. Good & Sons
 Rotterdam, 20 Hutchinson & Son
Wood Pulp—
 Helsingfors, 602 bls. J. Good & Sons
 " 49 Furley & Co.
 168

Zinc Oxide—
 Antwerp, 5 cks. Bailey & Leatham
Zinc Sulphate—
 Rotterdam, 1 ck. Hutchinson & Son

GLASGOW.

Week ending June 27th.

Aniline—
 Hamburg, 5 cks 1 cs.
Barium Sulphate—
 Antwerp, 400 bgs.
Barytes—
 Rotterdam, 87 cks.
Bone Meal—
 Bombay, 22,500 bgs.
Castor Oil—
 Marseilles, 136 brls. 10 cs.
 Antwerp, 38 cks.
Chrome Ore—
 Ismedt, 1,030 t.
Citric Acid—
 Bordeaux, 10 cks.
Cream of Tartar—
 Bordeaux, 20 cks.
Dyestuffs—
 Alizarine
 Rotterdam, 65 cks. J. Rankine & Son
 " 38 pkgs.
 Argols
 Bordeaux, 55 cks.
 Extracts
 Fiume, 100 brls.
 Madder
 Rotterdam, 8 cks. J. Rankine & Son
 Marseilles, 10
 Myrabolams
 Bombay, 620 bgs.
 Sumac
 Palermo, 1,200 bgs.
Farina—
 Delfryl, 736 bgs.
 Hamburg, 200
French Chalk—
 Fiume, 295 bgs. P. M'Intosh & Sons
 " 100
Gelatine—
 Hamburg, 10 cs.
Glue—
 Fiume, 320 bgs.
 Rouen, 17 pkgs. 61 cks.
 Hamburg, 1
Guano—
 Iceland, 3,060 bgs.
Kelp—
 Stavanger, 1,655 sks. 920 bgs. H. C. Fairlie & Co.
 1,396
Magnesite—
 Hamburg, 35 cks.
Ochre—
 Rouen, 61 cks.
 Marseilles, 7 brls.
Painters' Colours—
 Rotterdam, 8 cs. 17 cks. 20 brls. J. Rankine & Son
 Antwerp, 18 4
 Ghent, 9 16
 Rotterdam, 20 pkgs.
 Hamburg, 4
Paraffin Scale—
 Philadelphia, 175 brls.
Potashes—
 Montreal, 10 brls.
Soap—
 Fiume, 108 cs.
 Philadelphia, 400 bxs. 26 crts.
Starch—
 Fiume, 30 bgs.
 Rotterdam, 5 cs. J. Rankine & Son
Sulphur—
 Gergenti, 500 t.
 Catania, 2,295 bgs. 200 cks. 58 brls.
Sulphur Ore—
 Huelva, 1,425 t. Rio Tinto Co.

Tartar —		
Bordeaux,	3 cks.	
Tartaric Acid —		
Fiume,	74 cks.	Wio. Buntin & Co
Treacle —		
Philadelphia,	2,000 brls.	Waddeil & Bryson
Waste Salt —		
Hamburg,	200 t.	
White Lead —		
Rotterdam,	30 cks.	J. Rankine & Son
Wood Pulp —		
Fiume,	204 bls.	
Christiania,	552	
Zinc Oxide —		
Marseilles,	95 brls.	
Antwerp,	15 cks.	
Zinc White —		
Rotterdam,	75 cks.	J. Rankine & Son

TYNE.

Week ending June 22nd.

Ammonium Chloride —	
Hamburg,	2 cks. Tyne S. S. Co

Barytes —		
Antwerp,	400 bgs.	Tyne S. S. Co.
Colours —		
Rotterdam,	6 cks.	Tyne S. S. Co.
Farina —		
Antwerp,	5 bgs.	Tyne S. S. Co.
Glucose —		
New York,	200 brls.	Furness, Withy, & Co
Glue —		
Antwerp,	2 brls.	Tyne S. S. Co.
Kieselguhr —		
Bergen,	130 bgs.	
Limestone —		
Antwerp,	3 crts.	Tyne S. S. Co.
Manure —		
Hamburg,	62 bls.	Tyne S. S. Co.
Pyrites —		
Trondhjem,	1 bx.	
Huelva,	1,339 t.	Scott Bros.
Starch —		
Rotterdam,	80 cs. 50 bxs.	Tyne S. S. Co.
Stearine —		
Antwerp,	3 bgs.	Tyne S. S. Co.
Wood Pulp —		
Gothenburg,	152 bls.	
Zinc Oxide —		
Antwerp,	10 brls.	Tyne S. S. Co.

GOOLE.

Week ending June 19th.

Alkali —		
Hamburg,	10 cks.	
Alum —		
Rotterdam,	60 bgs.	
Aniline Dyes —		
Ghent,	2 cks.	
Antimony —		
Boulogne,	1 ck.	
Caoutchouc —		
Boulogne,	2 cks.	
Chemicals (otherwise undescribed)		
Boulogne,	1 cs.	
Dyestuffs —		
Alizarine		
Rotterdam,	98 brls.	
Extracts		
Rouen,	76 cks.	
Madder		
Rotterdam,	3 cks.	
Dyestuffs (otherwise undescribed)		
Rotterdam,	198 cks. 39 cs.	
Boulogne,	41 7 32 pks.	
Ochre —		
Rouen,	77 cks.	
Phosphate —		
Ghent,	816 bgs.	

Potash—

Rotterdam,	30 cks.
Antwerp,	4 brls.
Dunkirk,	27 40 dms.

Saltpetre—

Rotterdam,	85 bgs.
Hamburg,	3 cks.

Waste Salt—

Hamburg,	817 cks. 322 t. 308 bgs.
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GRIMSBY.

Week ending June 22nd.

Aniline Colours—

Hamburg,	11 pks.
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Barytes—

Rotterdam,	24 cks.
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Caoutchouc—

Hamburg,	4 pks.
Rotterdam,	15 cs.
Antwerp,	1 1 bg.

Chemicals (otherwise undescribed)

Hamburg,	11 cs. 1 bg. 10 pks.
Rotterdam,	1
Antwerp,	1

Dyestuffs (otherwise undescribed)

Dieppe,	8 cks.
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Pitch—

Dieppe,	10 cks.
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EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.**LONDON.**

Week ending June 26th.

Acetic Acid —		
Launceston,	1 t. 8 c.	£34
Brisbane,	2 cs.	3
Alkali —		
Timaru,	2 c.	£5
Cape Town,	2 t. 1	20
Ammonia —		
Cadiz,	2 t. 3 c.	£75
Sydney,	3 cs.	11
Ammonium Carbonate		
Dunedin,	5 c.	£12
Melbourne,	17	30
Sydney,	15 cs.	18
Ammonium Chloride —		
Antwerp,	2 cks. £11	
Trebizonde,	15 c.	28
Chinde,	1 t.	43
Alexandretta,	3	53
Sydney,	2	11
Varna,	1 4	43
Ammonium Sulphate —		
Barbadoes,	50 t. 1 c.	£315
Valencia,	100	1,050
Pecalangan,	15	158
Cologne,	25	239
Sourabaya,	30 15	330
Arsenic —		
Dunedin,	10 c.	£8
Yokohama,	8 t.	34
Wellington,	1 10	27
Melbourne,	15	234
Barium Chlorate —		
New York,	10 c.	£40
Barium Nitrate —		
Calcutta,	4 c.	£4
Bleaching Powder —		
Algoa Bay,	10 c.	£7
Borax —		
Brisbane,	10 cs.	£11
Christchurch,	1 t. 10 c.	£43
Carbonic Acid Gas —		
Jersey,	10 c.	£25
Caustic Potash —		
Stockholm,	1 t. 10 c.	£30
Algoa Bay,	30 cs.	42
Bombay,	4	22
Caustic Soda —		
Dunedin,	11 c.	£21
Wellington,	2	6
Natal,	1 t.	11
E. London,	1 8	37
Hong Kong,	6	5
Algoa Bay,	12	14
Melbourne,	3 11	72
Padang,	10 8	98
Mauritius,	11 2	80

Chemicals (otherwise undes.)—

Townsville,	7 cs.	£21
Cape Town,	10 pks.	14
Melbourne,	5 t.	260
Auckland,	14	50
Dunedin,	10	35
Natal,	4	32
E. London,	3 cks. 4	46
Flushing,	1	30
Dunkirk,	6 1 c.	72
Bombay,	8	25
Citric Acid —		
Christchurch,	1 cs.	£3
Calcutta,	1	3
Odessa,	15 c.	100
Nelson,	1 ck.	11
Auckland,	2 2	28
Natal,	2	14
St. Petersburg,	1 t. 15	5 kgs. 253
Rotterdam,	5	32
Piræus,	1 ck.	6
Coal Products —		
Alizarine		
Dunedin,	1	£19
Barcelona,	1 cs.	34
Montreal,	5 cks.	70
Aniline Dyes		
Dunedin,	1 cs. 4 cks.	£13
Sydney,	1	15
Melbourne,	1	9
Aniline Salts		
New York,	30 cks.	£130
Stettin,	20	100
Anthracene		
Merdingen,	250 cks.	£1,538
Benzol		
Rotterdam,	53 drs. 20 puns 20 cks.	£693
Carbolic Acid		
Algoa Bay,	1 cs.	£5
Hamburg,	80 cks.	499
Marseilles,	119	249
Baltimore,	8	48
Easton,	18	107
Melbourne,	60 dms.	54
Rotterdam,	45	179
Trepoint,	35	71
Sydney,	30 drs.	27
Creosote Oil		
New York,	176 brls.	£254
Creosote Salts		
Brest,	650 brls.	£220
Naphtha		
Sydney,	40 dms.	£18
Melbourne,	19 cs. 22 drs.	36
Naphthaline		
New York,	104 cks 41 cs.	£223
Hamburg,	25 86 bgs.	196
Le Trepoint,	50	30
Naphthaline Salts		
Philadelphis,	1,445 bgs.	£243
Paraffin Wax		
Libau,	50 bgs.	£105

Pitch		
N. Orleans,	150 cks.	£97
New York,	10 brls.	6
Boston,	500 bgs.	75
Dunkirk,	875 t.	1,745
Bourgas,	25	8
Dordt,	180	315
Antwerp,	1,918	3,550
Alexandria,	200	74
Tar		
New York,	226 cks. 5 brls.	£137
E. London,	100 drs.	12
Algoa Bay,	100 dms.	6
Pt. Elizabeth,	200	24
Tar Oil		
Melbourne,	100 dms.	£46
Gothenburg,	591 cks.	449
Algoa Bay,	50	26
Hamburg,	250 brls.	156
Toluol		
Boulogne,	62 cks.	£184
Coal Products (otherwise undes.)		
Sydney,	200 drs.	£39
Brisbane,	10 brls.	11
Copper Sulphate —		
Odessa,	10 t. 5 c.	£160
Christiania,	1 2	56
Boston,	20	311
Lisbon,	44	605
Trepoint,	5	80
Bordeaux,	5	84
Creom of Tartar —		
Otago,	20 kgs.	£74
Townsville,	8 c.	28
Melbourne,	2 t. 5	158
Adelaide,	17	59
Wanganni,	5	47
Natal,	4	13
Brisbane,	5	18
Disinfectants —		
Wellington,	2 cs.	£93
Madras,	10 dms.	10
Rotterdam,	1 ck.	50
Melbourne,	181 pks.	136
Adelaide,	4	10
Dunedin,	7 t. 5 c.	249
Invercargill,	4 18	132
Canterbury,	40	14
Jamaica,	60	58
Sydney,	49 cs.	203
Natal,	13 12	53
Bremen,	1 t. 4	32
Penaag,	400 drs.	125
Hamburg,	25 cks. 125	125
New York,	6 11	54
Manure —		
Brisbane,	13 t. 10 c.	£130
Barbadoes,	28	308
Valencia,	200	1,800
Jamaica,	3 1	30
Madeira,	20	200

Malaga,	50	492
Trinidad,	60	487
Mirbane —		
New York,	2 t. 13 c.	£100
Nitric Acid —		
Otago,	10 cs.	£18
Bangkok,	5 c.	25
Nitrogen Protioxide —		
Dunedin,	1 cs.	£21
Oxalic Acid —		
Sydney,	1 t.	£34
Phosphorus —		
Dunedin,	1 t. 2 c.	£48
Lisbon,	12 cs.	143
Sydney,	28	270
Potash —		
Madeira,	6 kgs.	£11
Trepoint,	7 t. 3 c.	25
Dunkirk,	5 18	100
Sydney,	1 2	18
Potash Crystals —		
Halifax,	3 cs.	£85
Potassium Bichromate —		
Hamburg,	3 t. 12 c.	£101
Calcutta,	2 3	94
Potassium Chlorate —		
Gothenburg,	4 kgs.	£20
Alexandria,	10	20
Potassium Cyanide —		
Beira,	8 c.	£21
Delagoa Bay,	5 t.	271
Potassium Iodide —		
Cape Town,	1 cs.	£20
Potassium Prussiate —		
Boston,	19 cks.	£101
Norrköping,	1	18
Natal,	2 c.	21
Antwerp,	24	89
Prunella —		
New York,	1 t. 14 c.	£41
Saltpetre —		
Melbourne,	3 t.	£20
Oporto,	3 15 c.	24
Piræus,	2 10	16
Bahia,	2 4	25
Adelaide,	1	10
Brisbane,	1 10	24
Lisbon,	3 13	24
Wellington,	1	21
Algoa Bay,	5	9
Pernambuco,	5 14	102
Sydney,	3	7
Sheep Dip —		
Pt. Elizabeth,	1,000 cs.	£211
E. London,	1,000	91
Cape Town,	3 t.	35
Melbourne,	5 t. dms.	10
Algoa Bay,	1 7 c.	21
Odessa,	100 cs.	21

a—		
York,	15 c.	£29
a Crystals—		
Wcastle,	16 t. 12 c.	£32
ney,	22 15	44
ium Bicarbonate—		
mid,	2 t. 10 c.	£19
London,	4	12
ium Bisulphite—		
bourne,	6 cks.	£12
ium Carbonate—		
London,	5 c.	£8
ium Hyposulphite—		
elaide,	19 t. 19 c.	£115
ium Prussiate—		
werp,	30 cks.	£258
ium Silicate—		
ritius,	8 t. 4 c.	£29
ium Tartrate—		
bourne,	6 c.	£15
onto,	1 t. 3	58
ney,	1	67
ntium Nitrate—		
cutta,	1 t. 10 c.	£39
York,	5 2	121
hur—		
iz,	1 c.	£11
hampton,	14	20
bon,	250 brls.	174
ssel Bay,	13 t. 8	153
ney,		20
huric Acid—		
ursday Is.,	17 dms.	£16
umbo,	3 t.	28
apore,	10 cs.	20
irphosphate—		
al,	500 t.	£1,370
aric Acid—		
bourne,	3 t. 5 c. 40 kgs.	£509
ney,	30	120
oa Bay,	3	17
logne,	5	25
ntreal,	1 3	98

LIVERPOOL.

Week ending June 26th.

a—		
more,	14 c.	£27
men—		
ton,	5 brls.	
e Town,	1 t.	£7
eus,	14 c.	5
Francisco,	51	350
stantinople,	19	5
tyres,	5 17	1 q. 25
Orleans,	5 4	28
tz,	26 5	115
ney,	2 9 1	13
onia—		
ambuco,	10 c. 3 q.	£31
onium Carbonate—		
ander,	1 t.	1 q. £33
enhagen,	9 c.	15
goon,	19	38
aburg,	19	32
in,	1	34
sa,	1 5	44
orn,	1 7	47
onium Chloride—		
tz,	1 t. 4 c.	£46
treil,	5	10
elona,	3	75
York,	5 15	2 q. 135
Petersburg,	5 1	180
les,	10	19
iburg,	18	52
onium Sulphate—		
Canary,	24 t. 17 c.	£258
agona,	5 1	52
Palmas,	10 6	2 q. 104
on,	50 18	3 537
stania,	60 19	642
Petersburg,	20 12	215
York,	25	260
port News,	76 8	743
ria,	44	487
delphia	118 1 3	1,230
ncia,	280 16 1	2,942
ony—		
treil,	5 c.	
ony Sulphate—		
York,	1 t. 1 c. 2 q.	£65
itos—		
delphia,	12 cs.	

Rouen,	1 bg. 1 sht.	
Barium Chlorate—		
Stockholm,	4 c.	£17
Bisulphite of Lime—		
Rangoon,	4 t.	£20
Bleaching Powder—		
Ancona,	28 cks.	
Baltimore,	64	
Bilbao,	29	
Bombay,	20 cs.	
Boston,	156	
Galatz,	40 kgs.	
Genoa,	101	
Ghent,	69 10	
Malaga,		7 brls.
Messina,	14	
Naples,	50	
Newport News,	147 135 bxs.	115
New York,	366	25
Passage,	3	
Pernambuco,		7
Philadelphia,	30	71
Piræus,		6
Rouen,	43	
San Sebastian,	29	
Venice,	34	
Boracic Acid—		
Hamburg,	5 t. 8 c. 2 q.	£162
B. Ayres,	4 3	7
Borax—		
Alexandria,	1 t. 15 c.	£32
E. London,	1	10
Hamburg,	22 8	2 q. 449
Antwerp,	7 2	3 143
Rotterdam,	4 7	3 89
Montreal,	9 2	1 155
Galatz,		6
B. Ayres,	2	38
Leghorn,	2 8	46
Sydney,	2 7 3	42
Calcium—		
Odessa,	10 t. 2 q.	£24
Carbolic Acid—		
Montreal,	2 c.	£6
Shanghai,	3 cs.	10
Yokohama,	5 t.	280
Hamburg,	10 1	335
Baltimore,	8 17	2 q. 383
Rio de Janeiro,	1	21
Castor Oil—		
C. C. Castle,	8 cs.	
Matadi,	10	
New York,	4	
Caustic Potash—		
N. Orleans,	3 t. 11 c.	£90
Newport News,	8 3	211
Caustic Soda—		
Ancona,	5 dms.	
Barcelona,	120	
Boston,	50	
Alexandria,	4	
Alicante,	30	
Baltimore,	330	100 bxs.
Bari,	35	
Bombay,	24	3 brls.
B. Ayres,	20	
Cartagena, Sp.,	16	
Ceara,	30	
Constantinople,	34	
Corfu,	30	
Corral,	45	
Dunkirk,	23	
East St. Louis,	200	
Fairwater,	251	
Fiume,	30	
Genoa,	322	
Hamburg,	25	5
Havana,	132	
Havre,	15	
Hiogo,	175	
Jaffa,	8	
Leghorn,	91	
Malaga,	20	
Maracaibo,	10	
Messina,	8	
Montreal,	156	
N. Orleans,	50	
Newport News,	1,056 dms.	10
90 bxs		
New York,	10	
Odessa,	453	
Oporto,	30	
Philadelphia,	375	
Piræus,	10	
Rotterdam,	47	
Rouen,	66	5
St. Petersburg,	104	
Seville,	100	
Santos,	142	
Singapore,	10	
Sofia,	30	
Sourabaya,	220	
Stettin,	60	
Sydney,	60	

Talcabano,	30	
Valencia,	130	
Venice,	35	5
Chemicals (otherwise undesignated)		
Rotterdam,	1 t. 11 c. 1 q.	£54
Valencia,	10	18
Leghorn,	9	17
Nantes,	1	34
Montreal,	2	68
New York,	1 8	45
Marseilles,	1 1	38
Genoa,	3 10	129
Philadelphia,	13	416
Hamburg,	2 5	61
Antwerp,	6	11
Boston, 200 hf.-tcs.	11	1,185
Odessa,	80	266
China Clay—		
Boston,	477 t.	
Calcutta,	15	
Bombay,		200 cks.
Lisbon,		4
Maranham,	6 14 c.	
Oporto,	20	
Philadelphia,		204
Rio de Janeiro,	5	16
St. Nazaire,	2	
Clitic Acid—		
St. Petersburg,	2 t. 10 c.	£299
Coal Products—		
Aniline Colours—		
Bombay,	1 cs.	
Aniline Oil		
Genoa,	5 dms.	
St. Nazaire,	3	
Aniline Salts		
Boston,	70 cs.	
New York,	25 cks.	
Piræus,	15	
St. Nazaire,	10	
Creosote Oil		
Lisbon,	50 brls.	
Mirbane Oil		
Maranham,	4 dms.	
Naphthalene Colours		
New York,	11 cks.	
Naphthol and Diamine		
New York,	32 cks.	
Pitch		
Antwerp,	20 kgs. 10 tins	
Rouen,	2 cks.	
Sierra Leone,	15 brls.	
Valparaiso,	30	
Tar		
Accra,	35 brls.	
Bona Vista,	40	
Elmina,	20 kgs.	
Ibrail,	58	
Kingscove,	25	
St. John's N'd.,	50 50	
Santander,	10	
Sierra Leone,	10	
Sulna,	30	
Cobalt Oxide—		
Lisbon,	1 bx.	£8
Copperas—		
San Francisco,	66 t. 5 c.	£155
Copper Sulphate—		
Halifax,	1 t.	£15
Piræus,	1 6 c. 1 q.	18
Marseilles,	50 1	726
Mazatlan,	20 2	307
Gothenburg,	2 4	11
Bahia,	10	11
Rouen,	38 16 2	582
Bodeaux,	280 2 3	3,928
Galatz,	1	16
Ancona,	8 14	138
Venice,	4 13 3	73
Genoa,	7 2 3	111
Lisbon,	6 5 3	60
Santos,	10	8
Odessa,	20 3 3	302
Cream of Tartar—		
St. John's N'd.,	3 c.	£11
Montreal,	8	49
Halifax,	1 t.	90
Disinfectants—		
Shanghai,	1 cs.	£4
Montreal,	5 cks.	10
St. John's N'd.,	12 c.	5
Kobe,	1 t. 2 1 q.	45
Farina—		
Bombay,	18 bgs.	
Gelatine—		
New York,	75 bxs.	
Glucose—		
Bahia,	5 kgs.	
Glue—		
Boston,	4 pks. 70 bgs.	
Hong Kong,	40 tins	
Montreal,	10	
Rotterdam,	40	

Guano—		
Malaga,	6 t. 18 c.	£70
Gypsum—		
New York,	35 t. 16 c.	£115
Iron Oxide—		
Philadelphia,	15 t. 7 c.	£70
Lime—		
C. C. Castle,	4 t.	£9
Pr. Natal,	13 3 c. 2 q.	20
Magnesia—		
Alicante,	20 cs.	
Havana,	6	
Havre,	57	
Magnesium Carbonate—		
Bahia,	6 cs.	
Magnesium Chloride—		
Bombay,	4 t. 8 c.	£12
Magnesium Sulphate—		
Bombay,	30 bgs.	
Curacao,	2 brls.	
Rio de Janeiro,	100 kgs.	
Manure—		
Tarragona,	15 t. 3 c.	£35
Valencia,	55 11 2 q.	122
Muriatic Acid—		
Pernambuco,	1 t. 19 c.	£23
Ochre—		
Melbourne,	40 kgs.	
Pernambuco,	10 cks.	
Paint—		
Amsterdam,	6 kgs. 5 dms.	
Calcutta,	1 ck. 79	12 cs.
Alexandria,	365	
Ambrizette,		4
Arecife,	3	
Arecibo,	2	
Beyrout,	15	
Cape Haitien,	1	
Ceara,		5
Cienfuegos,	3	
Gibraltar, 1 brl.		7 pkgs.
Havana,	3	
Hiogo,		1 cs.
Iquique,	25 174	114
Iquitos,	4	
Jaffa,	3	
La Guayra,	5	
La Libertad,	4	
Lanzarote,		40
Larnaca,	2	80
Lisbon,	3	31
Mayaguez,	6	
M. Video,	3	
New York,	50	
Para,	2	
Rio de Janeiro,	12	
Rouen,		18
St. John's N'd.,	9	32
St. Thomas,	50	
Santos,	300	
Savanilla, 1 brl.		2
Sierra Leone,	2 70	
Smyrna,	90	
Teneriffe,	70	
Trieste,	10	25
Tripoli,		136
Valparaiso,		17
Vera Cruz,		
Painters' Colours—		
Antwerp,	14 pkgs.	1 cs.
Bahia,	6 brls. 5 cks. 53 kgs.	1
Boston,	1 7	20
B. Ayres,		1
Calcutta,		
Baltimore,	106	
Canea, 11 brls.		24
Ceara,		216
Constantinople,		2 tcs.
Elmina,	20	
Ghent,		1 cs.
Havana, 1 brl.		6
Hong Kong,		45
Lisbon, 12 bls.	33	
Malta,		135
Manaos,	10 11	
M'ranh'm, 14 brls.		20
Monterey, 35		55 dms
M. Video,		32 12 cs.
Montreal,		17
N. Orleans,		2
New York,		1
Oporto,	1 bx.	25
Para,		17 tcs.
Philadelphia,		8 cs.
Rotterdam,	21 cks.	
Savanilla, 16 bls.		3
Santander,	1	13
Santiago,		25
Seville,		2

Sherbro, 40	Barbadoes, 1,350	Soda Crystals—	Gothenburg, 50 cks.
Valparaiso, 20	Bathurst, 76	Boston, 336 brls. 260 kgs.	Rotterdam, 65 brls.
Victoria, 20	Bluefields, 550	Calcutta, 20	Terneuzen, 16
Phosphorus—	Bombay, 735 95	Gothenburg, 8 cks.	Yarnish—
Kobe, 5 c. £63	Bonny, 112	Malta, 70 100	Colombo, 10 pkgs.
Yokohama, 10 125	C. C. Castle, 50	Montreal, 75	Genoa, 2 cs.
Tokio, 5 58	Akassa, 99	Nagasaki, 10	Leghorn, 5 1 ck.
Shanghai, 11. 3 230	Antwerp, 624	Naples, 20 bgs.	Mauritius, 1
Hio, 2 5 565	Athens, 13	New York, 112 280	Montreal, 1
Potashes—	Bona Vista, 6	Philadelphia, 920 50	Naples, 2 10 dms.
B. Ayres, 11. 5 c. £25	B. Ayres, 1	Rotterdam, 50	Para, 1
Genoa, 11 3 q. 13	Calcutta, 246	Sourabaya, 190	Piræus, 1
Potassium Bicarbonate—	Callao, 12	Sodium Bicarbonate—	Rio de Janeiro, 2
Alexandria, 4 t. 7 c. £204	Cape Town, 3,050	Alicante, 75 kgs.	St. John's, 8 pkgs.
B. Ayres, 7 3 q. 17	Constantinople, 4	Ancona, 18	Whiting—
Potassium Bichromate—	Copenhagen, 40	Antwerp, 24 41 cks. 3 brls.	Colombo, 3 brls.
Rio de Janeiro, 6 c. 3 q. £13	Curacao, 430	Barcelona, 90	New York, 32 cks.
Hong Kong, 2 6	E. London, 1,736 50	Batoum, 20	Santos, 50
Potassium Carbonate—	Genoa, 200	Bari, 150	Zinc Chloride—
Newport News, 2 t. 2 c. £42	Gibraltar, 132	Bombay, 450	Piræus, 4 t. 13 c.
Potassium Chlorate—	Gd. Canary, 25	Bourgas, 40	Boston, 7 3 q.
Bari, 15 c. £34	Gd. Popo, 100	B. Ayres, 100 5	Bombay, 13 15
Venice, 10 23	Havre, 120 480	Cape Town, 25	Zinc Crystals—
B. Ayres, 19 56	Iquitos, 200	Cartagena, Sp., 40	Antwerp, 1 t. 4 c. 2 q.
Naples, 1 t. 5 48	Jersey, 25	Colombo, 8	
Genoa, 1 44	King s Cove, 6	Constantinople, 45	
Rotterdam, 1 10 77	Kingston, Ja., 380	Copenhagen, 160 22	
Gutejewsky, 2 10 130	Lagos, 115	Danzig, 6	
New York, 5 192	Las Palmas, 365	Fairwater, 200	
Hio, 17 10 734	Lome, 25	Genoa, 75	
Shanghai, 2 79	Malta, 25 130	Gutujewski, 400	
Hong Kong, 14 34	Manaos, 250	Halifax, 50	
Antwerp, 10 25	Maranhão, 55	Hamburg, 45	
Bombay, 1 3	Montreal, 750 7 cks.	Hio, 250	
Savanna, 2 3 q. 9	New York, 1,600 26	Honolulu, 20	
Salt—	Old Calabar, 1,374	Jersey, 50 bgs.	
Antwerp, 262 t.	Opobo, 3 240	Kingston, Jam., 40	
Boston, 470	Para, 585 1	Koenigsberg, 20	
Calcutta, 5 566	Pernambuco, 2	Leghorn, 50	
C. C. Castle, 12 10 c.	Pt. Elizabeth, 1,670 80	Malaga, 5	
Abonema, 10	Pt. Natal, 1,520	Malta, 14	
Akassa, 657 19	Porto Rico, 75	Marseilles, 40	
Algoa Bay, 5	Quittah, 1	Mayaguez, 20	
Baltimore, 350	Kangoon, 25	Melbourne, 250 8	
Barbadoes, 50	S. John's, Nfld., 380 260	Montreal, 680 35	
Batanga, 4 10	Rotterdam, 25 280	Naples, 30	
Brisbane, 657 2	St. Lucia, 411	Newfairwater, 25	
B. Ayres, 19 8	Savanna, 160 2	Odesa, 100 bgs. 70	
Cameroon, 195	Savanna, 2	Para, 10	
Chittagong, 1,865	Shanghai, 7,831 1	Paris, 55	
Copenhagen, 255	Sierra Leone, 145 2	Philadelphia, 10	
Degama, 50	Singapore, 400	Riga, 322 78	
Ghent, 100	Teneriffe, 202	Rotterdam, 50	
Gothenburg, 9 16	Trinidad, 1,800	Rouen, 45	
Gd Bassam, 31 3	Valparaiso, 500 110	St. John's, Nfld., 35	
Halifax, 1,727 10	Vera Cruz, 1	St. Petersburg, 200	
Hamburg, 100	Zanzibar, 1,404	Stettin, 19 43	
Havana, 2 3	Soda Alkali—	Salonica, 40	
Iceland, 384	Boston, 40 brls.	Singapore, 20	
Kingston, Jam., 2 3	Barcelona, 50 34 cks.	Sourabaya, 20	
Lagos, 371	Bombay, 8	Sydney, 570	
Matadi, 5 15	Corunna, 6	Toronto, 200 25	
Melbourne, 220	Genoa, 35	Valencia, 100	
M. Video, 6 9	Lisbon, 35	Varna, 30	
Montreal, 1,130 10	Montreal, 20	Vera Cruz, 80	
N'castle, NSW, 206 8	Odesa, 50 35	Sodium Bisulphite—	
Newport News, 150	Piræus, 35	Rangoon, 25 cs.	
New York, 10	Soda Ash—	Sodium Borate—	
Old Calabar, 45	Bahia, 8 brls.	Dunedin, 5 kgs.	
Para, 50	Baltimore, 201 tcs. 984 bgs.	Melbourne, 20	
Podpakt, 320	Barcelona, 20 cks.	Sodium Chlorate—	
Pt. Elizabeth, 8	Boston, 128	Baltimore, 20 kgs. 20 bxs.	
Pt. Royal, 100	B. Ayres, 50	Hamburg, 4 cks.	
Quebec, 2 16	Calcutta, 30 35 kgs.	New York, 185	
Rio de Janeiro, 1	Cartagena, Sp., 15 5 cks.	Sodium Silicate—	
Rosario, 3 11	Copenhagen, 1 230	Bilbao, 55 brls.	
Rotterdam, 114	Dunedin, 34	Kingston, Jam., 10	
St. John's, Nfld., 10	Genoa, 2 400	Madeira, 5	
San Francisco, 119	Ghent, 4 150	San Sebastian, 104 cks.	
Santos, 25 19	Gothenburg, 32 400	Shanghai, 33	
Sapeli, 6 5	Hamburg, 27	Sodium Sulphate—	
Stockholm, 75	Havana, 6	Boston, 100 bgs.	
Sydney, 200	Jaffa, 5	Starch—	
Talcabuan, 7 14	Malaga, 2	Nantes, 5 hds.	
Trinidad, 36	M. Video, 10	Rio de Janeiro, 14 cks.	
Wyburg, 500	Montreal, 30 498	Stearine—	
Salt Cake—	Naples, 150	Hamburg, 10 t.	
Baltimore, 12 c. 2 q. £1	Newfairwater, 91	Sulphur—	
Lisbon, 10 t. 16	Newport News, 82 1,602	Calcutta, 6 t. £23	
Sheep Dip—	New York, 152 tcs. 245 2,022	Para, 10 c. 3	
Montreal, 1 ck. £65	Philadelphia, 25 35 200	Riga, 14 19 2 q. 55	
Iceland, 5 c. 1 q. 10	Piræus, 30 brls.	Boston, 250 4 814	
Punta Arenas, 7 t. 17 2	Rio de Janeiro, 10 kgs. 20	Montreal, 100 1 366	
B. Ayres, 22 598	Samarang, 12	Ghent, 6 21	
M. Video, 8 178	San Francisco, 130	B. Ayres, 0 7 3 64	
Soap—	Santos, 145	Sulphuric Acid—	
Adalah, 50 bxs.	St. Petersburg, 43 50	Pernambuco, 10 c. £5	
Alexandria, 3 cs.	Smyrna, 50 brls.	Tartaric Acid—	
Algoa Bay, 1,600 5 2 bds.	Sydney, 103 3 tcs.	Vera Cruz, 2 c. 2 q. £14	
Anamaboe, 50	Syria, 50	Treacle—	
Antigua, 160	Talcabuan, 100	Antwerp, 15 bfl. pns.	
Azim, 130	Valparaiso, 15 95	Christiania, 50	
Baltimore, 19	Yokohama, 150	Ghent, 21	

MANCHESTER

Week ending June 26th.

Albumen—	Rouen, 1 ck.
Alum—	Alexandria, 50 brls.
Ammonium Carbonate—	Antwerp, 10 kgs.
Aniline Colours—	Rotterdam, 1 ck.
Aniline Oil—	Antwerp, 11 dms.
Chemicals (otherwise undescr.)	Alexandria, 20 cks.
Copperas—	Cairo, 42 brls.
Copper Sulphate—	Alexandria, 6 cks.
Creosote—	Rotterdam, 7 cks.
Extracts—	Rotterdam, 4 cks.
Glue—	Rouen, 4
Linseed Oil—	Rotterdam, 9 cks.
Linseed Oil—	Alexandria, 40 brls.
Nitrate of Lead—	Rouen, 1 ck.
Paint—	Beyrout, 2 kgs.
Pitch—	Antwerp, 154 t. 14 c.
Potassium Bicarbonate—	Alexandria, 8 cks.
Sodium Arseniate—	Rotterdam, 4 cks.
Tallow—	Rotterdam, 26 cks.
Tar Oil—	Hamburg, 6 cks. 30 dms.
	Rotterdam, 1 20 tins.

HULL.

Week ending June 22nd.

Ammonium Sulphate—	Bremen, 284 bgs.
	Hamburg, 300
	Rouen, 10
	Rotterdam, 228
	St. Petersburg, 100
Basic Slag—	Koenigsberg, 751 t.
Benzol—	Rotterdam, 50 cks.
Bleaching Powder—	New York, 70 cks.
	Stettin, 63
Borax—	Liban, 4 cks.
Caustic Soda—	Danzig, 85 dms.
	Helsingfors, 3 cs. 4 cks.
	Hango, 5
	Liban, 139
	San Francisco, 209

icals (otherwise undescribed)

erp,	1 ck.	
erdam,	15 pks.	
en,	4	
eaux,	40 cs.	
nhagen,	10	
heim,	5 pks.	
ig,	50	
enburg,	10	
burg,	6	220
gsberg,	37	
a,	108	120 pks.
rdam,	1	
holm,		

eed Oil—

erp,	204 c.
erdam,	122
en,	452
tiansand,	17
tiania,	17
enburg,	50
burg,	674
rdam,	700
holm,	300

uffs (otherwise undescribed)

tiania,	24 bgs.
oping,	84
rdam,	2 cks.

ed Oil—

n,	50 c.
tiansund,	155
tiansand,	87
tiania,	1,146
heim,	59
burg,	321
rdam,	100
nger,	100

al White—

ngen,	10 t.
t,	5 cks.
rdam,	6

ers' Colours—

erp,	40 kgs.	3 cks.	1 cs.	16 dms.
rdam,	2			
n,	5	3		
hagen,	1			68
tiania,				14
irk,	4			
g,	10			
gfors,	210			
urg,	14			2 pks.
f,	2			
oping,	175			
h,	6			

rdam,

rdam,	16	10	2 pks.
nger,	1		
tersburg,	131		

in Wax—

erp,	68 bgs.
rk,	85 t.
rk,	148

rp,

rp,	2 kgs.
tersburg,	1 cs.

dam,

dam,	27 cks.
olm,	5

rp,

rp,	10 cks.
rdam,	6
tiansand,	5
hagen,	5
burg,	199
gfors,	88
dam,	10
rg,	30

h—

rp,	4 cks.	1 cs.	1 dm.
rdam,	3		
hagen,	1		
ania,	1		
rk,	2		
burg,	2		
olm,	1		

GLASGOW.

Week ending June 27th.	
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en—

en—	£47
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ium Sulphate—

ona,	20 t.	7½ c.
ara,	244	8½
y,	10	7½

Trinidad,	72	11½
Valencia,	101	8½
Mandala,	3	14½
Mauritius,	210	6½
U.S.A.,	50	16½

Arsenic—

Canada,	£37
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Bleaching Powder—

Bleaching Powder—		
Calcutta,	117 t.	3 c.
U.S.A.,		£4

Boracic Acid—

Havre,	£131
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Carbolic Acid—

Christiania,	10 brls.
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Caustic Soda—

France,	£170
Creosote	
France,	£280
Creosote Oil	

Coal Products—

Benzine	£70
Creosote	£280
Creosote Oil	
France,	173 t.
Christiania,	171 brls.
Dantzig,	5
Creosote Salt	
Antwerp,	150 t.

Naphthaline

France,	£46
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Pitch

Hamburg,	25 brls.	
Montreal,		60
U S A.,	246 t.	2 c.
Calcutta,		

Pyridine

Antwerp,	178
Pyridine	
Hamburg,	25 cks.

Copperas—

Mauritius,	£20
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Dyestuffs—

Extracts	£28
Italy,	213
Montreal,	44
Oporto,	272
U.S.A.,	101
Canada,	326
Cornwall,	

Fustic Extract

Montreal,	£71
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Logwood

Montreal,	£31
Canada,	69

Farina—

Calcutta,	16 t.	14 c.
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Glue—

B. Ayres,	£26
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Iodine—

Rotterdam,	5 c.
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Linseed Oil—

Canada,	4 t.	6 c.
Manila,	6	2½
Bahia,	1	7½
Cape Town,	5	13½
Jamaica,		

Litharge—

Bombay,	£25
Montreal,	55

Magnesium Sulphate—

Rio de Janeiro,	£43
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Manganese—

Canada,	£110
Paint—	
Calcutta,	£80

Mica—

U.S.A.,	£60
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Nitrate of Lead—

Canada,	£110
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Paint—

Calcutta,	£80
Kingston,	43
Manila,	133
Mauritius,	46
Colombo,	33
Natal,	74

Painters' Colours—

Bombay,	£25
Calcutta,	65

Manila,	49
Chinde,	40
Algoa Bay,	22
Cape Town,	27
Colombo,	40
E. London,	£75. 14s.

Paraffin Wax—

Barcelona,	6 t.
Italy,	£732
King William's Town,	66
Kobe,	210
Yokohama,	105
Cape Town,	112

Phosphates—

Mandala,	5 t.
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Potash—

Christiania,	12 cks.
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Potassium Bichromate—

Christiania,	12 cks.
Potassium Bichromate—	
Barcelona,	13 t.

Potassium Prussiate—

U.S.A.,	8	6½
U.S.A.,	14 t.	12½ c.

Salt—

Mauritius,	60 t.
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Soap—

Bombay,	1 t.	15 c.
Falmouth, Jam.,	1	5
Kingston, Jam.,	15	
Natal,	1	11½
E. London,	2	8
Mandala,	12	
Newfoundland,	3	5
Jamaica,	1	8½
U.S.A.,	1	2

Sodium Bichromate—

Mandala,	12	
Newfoundland,	3	5
Jamaica,	1	8½

Sulphur—

Demerara,	4	14
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Tallow—

Oporto,	1 t.	1 c.
Pt. Louis,	2	4½

Treacle—

Pt. Louis,	2	4½
Treacle—		
Christiania,	6 l.	1¼ c.

Yarnish—

Christiania,	10 c.
Bilbao,	£17

White Lead—

Manila,	2
M Video,	3
Christiania,	20 t.

TYNE.

Week ending June 22nd.

Alkali—		
Hamburg,	5 t.	7 c.
Christiania	8	6

Ammonia—

Hamburg,	20 t.	3 c.
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Ammonium Chloride—

Abo,	1 c.
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Ammonium Sulphate—

Rotterdam,	35 t.	7 c.
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Antimony—

Riga,	10 t.	2 c.
Barytes—		
Hamburg,	100 t.	2 c.

Arsenic—

Riga,	1 t.	2 c.
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Barytes—

Hamburg,	205 t.	3 c.
Konigsberg,	10	

Bleaching Powder—

New York,	50 t.	6 c.
Antwerp,	42	1
Hamburg,	75	16
Christiania,	20	17
St. Petersburg,	150	12
Rotterdam,	71	8
Drontheim,	10	4
Abo,	35	3
Riga,	10	5
Konigsberg,	6	11
Amsterdam,	11	12

Borax—

Borax—	
Abo,	2 c.
Seville,	1 t.
4	

Caustic Soda—

New York,	33 t.	7 c.
Antwerp,	2	2
Hamburg,	65	
Abo,	76	7
Rotterdam,	17	2
Riga,	10	3
St. Petersburg,	100	2

Colours—

Abo,	1 q.
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Copperas—

Abo,	1 t.	3 c.
Bergen,	3	8

Fluorspar—

New York,	29 t.
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Litharge—

Hamburg,	2 t.	6 c.
Montreal,	12	18
Riga,	2	16

Magnesia—

Hamburg,	1 t.	17 c.
Rotterdam,		5

Manganese—

Bilbao,	102 t.	16 c.
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Naphthaline—

Riga,	25 t.	9 c.
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Paint—

Hamburg,	4 c.
Genoa,	11
Abo,	11

Pitch—

Drontheim,	4 c.
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Slag—

Rotterdam,	147 t.
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Soda—

Abo,	7 t.	15 c.
White Lead—		
New York,	7 t.	15 c.

PRICES CURRENT.

WEDNESDAY, JULY 3RD, 1895

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.B. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—		£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	8	9/3
Glacial				40/-
Arsenic S.G., 2000°		0	15	0
Fluoric	per lb.	0	0	3 3/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
(Cylinder), 30° Tw.		0	3	0
Nitric 80° Tw.	per lb.	0	0	1 5/8
Nitrous		0	0	1 3/4
Oxalic	nett	0	0	3 3/4
Phosphoric, 1750°		0	1	1
Picric		0	0	10
Sulphuric (fuming 50 %)	per ton	15	10	0
(monohydrate)		5	10	0
(Pyrites, 168°)		3	0	0
(free from arsenic, 145°)		1	5	0
Sulphurous (solution) S.G. 1025		3	0	0
Tannic (pure)	per lb.	0	1	0
Tartaric		0	0	10 3/4
Arsenic, white powdered	nett per ton	15	0	0
Alum (loose lump)		4	12	6
Alumina Sulphate (pure)		4	12	6
Aluminoferic		2	7	6
Aluminium	per lb.	0	2	10
Ammonia, Anhydrous		0	1	3
" 880=28° B.	per lb.	0	0	3
" =24° B.		0	0	2 1/4
Carbonate	nett	0	0	3 3/4
Muriate	per ton	21	10	0
(sal-ammoniac) 1st & 2nd	per cwt.	39/-	8	37/-
Nitrate	per ton	40	0	0
Phosphate	per lb.	0	0	8 1/4
Sulphate (grey) London	per ton	9	15	0
(grey) Hull		9	15	0
Aniline Oil (pure)	per lb.	0	0	5 1/4
Aniline Salt		0	0	4 3/4
Antimony	per ton	32	0	0
(tartar emetic)	per lb.	0	0	7
(golden sulphide)		0	0	10
Barium Chloride	per ton	6	7	0
Carbonate (native)		3	5	0
Sulphate (native levigated)		45/-	10	75/-
Bleaching Powder, 35 %	nett	7	0	0
Liquor, 7 %		3	10	0
Bisulphide of Carbon		13	0	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	2	6
China Clay (at Runcorn) in bulk		15/-	10	30/-
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	8
Magenta		0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	1	0 1/2
Benzol, 90 % nominal	per gallon	0	1	0
Carbolic Acid (crystallised 40°)	per lb.	0	0	11 1/2
(crude 60°)	per gallon	0	1	7 1/2
Creosote (ordinary)		0	0	1 1/2
(filtered for Lucigen light)		0	0	2
Crude Naphtha 30 % @ 120° C.		0	0	5 1/2
Grease Oils, 22° Tw.	per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston		1	13	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	2
Lucigen and "Wells" Oils		0	0	2 1/2
Copper	per ton	42	10	0
Sulphate		15	10	0
Oxide (copper scales)		41	10	0
Glycerine (crude)		16	10	0
(distilled S.G. 1250°)		42	10	0
Iodine	nett, per oz.	0	0	9
Iron Sulphate (copperas)	per ton	1	5	0
Sulphide (antimony slag)		2	0	0
Lead (sheet) for cash		11	7	6
Litharge Flake (ex ship)		13	5	0
Acetate (white)		24	0	0
brown		14	10	0
Carbonate (white lead) pure		16	0	0
Nitrate		18	15	0
Lime, Acetate (brown)	per ton	5	12	6
(grey)		8	10	0
Magnesium (ribbon and wire)	per oz.	0	2	3
Chloride (ex ship)	per ton	2	7	6
Carbonate	per cwt.	1	17	8
Hydrate	per ton	17	0	0
Sulphate (Epsom Salts)	per ton	3	0	0
Manganese, Sulphate		17	0	0
Borate	per cwt.	2	15	0
Ore, 70 %	per ton	4	5	0
Methylated Spirit, 61° O.P.	per gallon	0	1	10
Naphtha (Wood), Solvent		0	3	0
Miscible, 60° O.P.		0	3	0
Oils:—				
Cotton-seed	per ton	18	10	0
Linseed		22	10	0
Petroleum, American	per gallon	0	0	6
Stearine	per ton	25	0	0
Phosphorus (yellow)	per lb.	0	2	2
(red)		0	2	8
Potassium (metal)	per oz.	0	3	7
Bichromate	nett per lb.	0	0	4
Carbonate, 90% (ex ship)	per ton	16	15	0
Chlorate	per lb.	0	0	4
Cyanide, 98%		0	1	6
Hydrate (Caustic Potash) 80/85 %	per ton	21	5	0
(Caustic Potash) 75/80 %		19	15	0
(Caustic Potash) 70/75 %		19	10	0
Nitrate (refined)	per cwt.	1	1	6
Permanganate	per cwt.	2	17	6
Prussiate Yellow	per lb.	0	0	7 1/2
Sulphate, 90 % (ex ship)	per ton	9	15	0
Muriate, 80 % (do.)		8	10	0
Silver (metal)	per oz.	0	2	6 1/2
Nitrate		0	2	0
Sodium (metal)	per lb.	0	2	1
Carb. (refined Soda-ash) 48 %	nett per ton	4	15	0
(Caustic Soda-ash) 48 %		3	17	6
(Carb. Soda-ash) 48 %		3	15	0
(Alkali) 58 %		3	7	6
(Soda Crystals)		2	2	6
Acetate (ex-ship)		14	0	0
Arseniate, 45 %		11	0	0
Chlorate	per lb.	0	0	6 1/2
Borate (Borax)	net, per ton	18	10	0
Bichromate	per lb.	0	0	3 1/4
Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton		9	7	6
(74 % Caustic Soda)		8	7	6
(70 % Caustic Soda)		7	10	0
(60 % Caustic Soda)		6	10	0
(60 % Caustic Soda, cream) (f.o.b.)		6	7	6
Bicarbonate		6	10	0
Hyposulphite		5	10	0
Manganate, 30%		16	0	0
Nitrate (95 %) ex-ship Liverpool	per cwt.	0	8	1 1/2
Nitrite, 98 %	per ton	29	0	0
Phosphate		14	10	0
Silicate (glass)	per ton	4	10	0
(liquid, 100° Tw.)		3	10	0
Stannate, 40 %	per cwt.	3	2	9
Sulphate (Salt-cake)	per ton	0	17	6
(Glauber's Salts)		1	5	0
Sulphide		8	0	0
Sulphite		5	5	0
Strontium Hydrate, 100%		8	10	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	6 1/2
Barium, 95 %		0	0	4 1/2
Potassium		0	0	7
Sulphur (Flowers)	per ton	5	15	0
(Roll Brimstone)		5	0	0
Brimstone: Best Quality		3	12	6
Superphosphate of Lime (26%)		2	7	6
Tallow		23	10	0
Tin Crystals	per lb.	0	0	5 1/2
English Ingots	per ton	66	10	0
Zinc (Spelter)		14	15	0
Chloride (solution, 100° Tw.)		5	7	6

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Notices.

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Contributors are invited to forward items of intelligence, or cuttings from newspapers, of interest to the trades concerned.

Communications for the Editor, if intended for insertion in the current week's issue, should reach the office not later than **Tuesday** evening.

Advertisements.

Advertisements of Situations Vacant, Premises on Sale or To be Let, and Specific Articles for Sale by Private Contract are charged in the *Chemical Trade Journal* at the following rates:—

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CURRENT TOPICS.

THE COMMERCIAL COURT.

WHEN the London Chamber of Commerce inaugurated their scheme of arbitration through the medium of Chambers of Arbitration, the legal profession, while assuming an attitude of supreme indifference, did not relish the move at all. This was rendered only too evident by the activity of the profession displayed in ascertaining the real cause of the very apparent decline in the number of commercial cases in the Courts, and making a bid for this kind of business by the formation of the Commercial Court.

This court having been duly established, there is something quasi-humorous about the way in which the lights of the learned profession are booming their new off-spring. It would of course be emphatically *infra dig.* for the members of the profession to advertise this commercial court in any direct way, but there are many methods of attaining the same end. What the lesser lights cannot with due decorum accomplish, the more influential members can. Without reflecting for one moment on the undoubtedly excellent qualifications of Mr. Justice Mathew, the fulsomeness of the numerous eulogistic references that have of late been made to the court over which he presides, leaves with the commercially-minded an impression that no opportunity of "inducing business" is being left unturned. No doubt the Master of the Rolls could with all truth deny any such ulterior motive in alluding so flatteringly to the advantages of the Commercial Court, still wittingly or unwittingly the result in the long run is much the same. It would be difficult not to have observed that since the inception of the new court his Lordship has been more disposed to give litigants gratuitous information as to the expense that might be saved by taking their cases to the Commercial Court in the first instance, instead of to the County Courts and the Queen's Bench. Chambers of Arbitration will have fulfilled a useful mission if they can show nothing more than that they have caused the legal profession to provide a court in which commercial cases can be tried in a business-like manner by a business man, who applies the spirit of the law and deals intelligently with the technicalities of the same.

A NEW "AMINE" VENTURE.

This week a new company, under the title of the "Aminol" Sanitary Company, Limited, has invited the public to subscribe the capital wherewith to introduce a new disinfectant and a method of sewage treatment.

Anything to do with amines is not calculated to inspire the confidence of those who have any acquaintance with the results that have attended the exploitation of the amines or herring-brine process of sewage treatment. The prospectus states a good many kind things about Aminol, on the authority of one or two well-known organs, concerning the

bond-fides of which we have no cause to be dubious. The particulars, however, are rather meagre, the prospects of a good profit being qualified by the statement that the profit should be much greater than is usually obtained in companies brought before the public. The prospectus also appears only to deal in particular with the chances of success as compared with carbolic acid as a rival; no mention being made of the many other well-established disinfectants of a very similar nature to this new candidate for public favour. No information is given as to the nature of the method of sewage treatment, but the title of the "amines" process does not augur well. It is a difficult enough matter to compel people to treat their effluents, and the difficulty of inducing them to pay a royalty of, say, £20. for the right of using a certain process, will far exceed the expectations of the promoters, unless we are very greatly mistaken. It would thus appear that the *onus* of earning a profit lays on the merits of the disinfectant rather than the sewage purification process. Taking one thing with another, therefore, the affair seems to be an *olla podrida*, which is neither fish, flesh, fowl, nor good red herring.

THE POSITION IN COAL.

Existence is little more than an alternation of ups and downs, and as an off-set to the enthusiasm engendered by the advent of fine weather and the month of holidays, the position of the coal trade is causing some anxiety to the users of this almost universal source of power. There does not seem to be any material improvement in the price of coal from the masters' point of view, which means a poor prospect for the miner, who shows a very decided disposition to strike at the slightest provocation. Small disputes are only too plentiful at present, while the prospect of their lessening is not enhanced by the fact that there is to all appearances a very poor prospect of the Lancashire miners getting any of the 15% advance that they are entitled to ask for at the end of the year under the agreement of the Conciliation Board.

Now that things are beginning to show signs of a little improvement in trade, it will be little short of disastrous if another conflict in the coal trade is to again throw things into a state of chaos. Belief in the powers of the Conciliation Board appear to vary greatly, but till there is some direct evidence to show more definitely how far the doubters are justified of their opinion, there is practically nothing to be done but hope for the best and prepare for its antithesis.

FILTRATION OF SEWAGE EFFLUENTS.

(Continued from p. 5.)

SERIES NO. 2.

IN the second series of experiments a filter was constructed covering exactly one acre of land. The ground was levelled and embanked where necessary and perforated drains laid, meeting in a common trunk for discharge. The filtering material consisted of 3 feet of coke breeze, covered with 3 inches of gravel.

(a) In the first part of the series under notice the special object of the experiments was rather the ascertaining of the rate at which it was possible to pass effluent through the filter, and not the manner of producing the best results. The filter, however, speedily became clogged with sludge, and after the sixth week all the filtrates were putrid. The daily quantity that could be passed fell rapidly until at the end of twelve weeks the filter was quite useless, being putrid throughout. Valuable information was thus gained, for it was shown that rest and aeration were vital, and also that in order to obtain the best work from a filter, the quantity poured on it must increase very gradually, so as to permit of the proper biological condition being reached. The rate of working varied from close on one million to a quarter of a million gallons per diem. The filling was during several weeks continued until the water stood 6 inches above the surface; when the filter was emptied this portion ran through without having time for purification, and this fact doubtless aided largely in reducing the efficiency of the filter during this set of experiments.

During this period the following analytical results were obtained:

Date, 1893.	Oxygen absorbed in 4 hours.		Albuminoid ammonia.		Nitrogen as nitrates.		Purification effected on
	Effluent.	Filtrate.	Effluent.	Filtrate.	Effluent.	Filtrate.	
25th Sept. to 6th Oct.	3'631	2'128	—	—	'000	'083	4
9th Oct. to 13th Oct.	2'084	'509	—	—	'009	'215	4
16th " to 20th "	3'295	'502	—	—	'029	'117	8
23rd " to 30th "	3'915	1'447	—	—	'103	'021	6
30th " to 6th Nov.	4'480	1'546	—	—	'000	'008	8
6th Nov. to 13th "	4'404	1'235	'394	'110	'283	'201	7
13th " to 20th "	4'122	1'105	'368	'097	'299	'317	7
20th " to 27th "	4'336	1'203	'401	'091	'304	'341	7
27th " to 4th Dec.	4'832	1'135	'457	'119	'180	'125	7
4th Dec. to 8th "	4'745	1'070	'435	'109	'077	'030	7
11th " to 18th "	3'821	'979	'481	'092	'021	'130	7
19th " to 23rd "	4'877	1'387	'393	'191	'000	'000	7

(b) The first series of experiments on biological lines conducted the same filter as the preceding was then commenced. The surface was raked, and the bed was allowed to rest during three and a months. For fully three months of that time a putrid odour observable when the filter was disturbed, but this gradually appeared, and during the last fortnight the coke breeze was perfectly sweet. From that time the filter was kept practically constant work for nearly a year, the only rest of any length being from the 10th of November, 1894, to the 2nd of January, 1895, when alterations in the arrangements were made to admit of more rapid emptying.

The process adopted was to begin with small quantities, the being merely filled and emptied twice daily, with a view to getting into the necessary biological condition. This was commenced on April, 1894, and continued for a few weeks, the purification efficiency gradually rising. The quantity of effluent passed was about 500 gallons per diem, and the purification between 70 and 80 per cent. The highest state of efficiency was reached on the 3rd May, or at full month's working. The purification reached 83 per cent., and placed in the filtrate were kept alive for many weeks. In fact, (minnows and sticklebacks) came up the ditch by which the filter emptied, to the very mouth of the outlet.

The following are the weekly averages of the analytical results:

1894. Week ending	Oxygen absorbed from permanganate in 4 hours.		Albuminoid ammonia.		Nitrogen as nitrates.		Purification effected on
	Effluent.	Filtrate.	Effluent.	Filtrate.	Effluent.	Filtrate.	
April 7th	4'634	1'428	'440	'159	'455	'721	6
" 14th	4'627	1'027	'521	'128	'095	'212	7
" 21st	4'283	'954	'485	'105	'095	'104	7
" 28th	3'977	'800	'507	'107	'471	'745	7
May 5th	4'300	'722	'502	'096	'0636	'106	8
" 12th	4'105	'844	'394	'090	'0308	'1145	7
" 20th	3'879	'814	'308	'055	'0000	'0413	7
" 26th	3'877	'657	'303	'059	'0000	'1310	8
June 2nd	4'033	'703	'401	'086	'0000	'1041	8
June 9th	3'247	'611	'303	'069	'0700	'0994	8

(c) Alterations were then made in the arrangements for filling feeding trough being doubled. The daily quantity was increased over 600,000 gallons, the analytical results continuing to be highly satisfactory, as shown by the following weekly averages:—

1894. Week ending	Oxygen absorbed from permanganate in 4 hours.		Albuminoid ammonia.		Nitrogen as nitrates.		Purification effected on
	Effluent.	Filtrate.	Effluent.	Filtrate.	Effluent.	Filtrate.	
August 3rd	3'195	'685	'365	'094	'0350	'2245	7
" 10th	3'217	'661	'329	'081	Not estimated.		7
" 17th	3'345	'661	'332	'079	"		7
" 24th	3'132	'661	'271	'057	"		7
" 31st	3'504	'819	'296	'077	"		7
September 7th	4'495	'785	'390	'082	'0350	'0876	7
" 14th	3'530	'712	'356	'087	'0000	'2341	7
" 21st	4'080	'767	'419	'136	'0700	'0632	7
" 28th	3'540	'745	'521	'103	'0000	'2344	7
October 5th	4'006	'808	'553	'244	'0000	'1050	7
" 12th	3'648	'828	'519	'243	'0359	'0982	7
" 19th	4'222	'781	'439	'117	'0000	'0672	7
" 26th	3'964	'740	'460	'132	'0000	'0678	7
November 2nd	2'497	'340	'298	'080	'0701	'3063	7
" 9th	3'726	'762	'406	'089	'0000	'2022	7

(d) Towards the end of 1894 the emptying arrangements were supplemented by a pump, and later the resting time was shortened, finally the filter passed 1½ million gallons daily for six days, rest empty from 10 p.m. on Saturdays until 6 a.m. on Mondays. The method adopted was to fill the filter to just level with the surface

possible; allow it to remain standing full for one hour, and off with the least possible delay. Working in this way the plant had an average of one million gallons a day, including all times during a period of eight weeks, the filtrates being clean and the purification effected 78%. Nitrification proceeded satisfactorily and the filter was apparently capable of continuing for an time.

of the greatest importance is the fact that the filter was able to work satisfactorily during the exceptionally severe weather in mid February, 1895. A thin coat of ice was formed on the surface of the filtration proceeded without intermission, the only change being the decreased production of nitric acid.

Following are the weekly averages of analytical results:—

Oxygen absorbed from permanganate in 4 hours.		Albuminoid ammonia.		Nitrogen as nitrates.		Purification on oxygen absorbed.
Effluent.	Filtrate.	Effluent.	Filtrate.	Effluent.	Filtrate.	Per cent.
2'412	'491	'259	'079	'5648	'8618	79'6
5'240	1'190	'447	'150	'6371	1'6386	77'3
4'045	1'103	'434	'162	'3765	'8973	73'0
4'202	'817	'441	'112	'3830	'9805	81'0
3'762	'742	'352	'085	'7826	1'1130	80'3
3'695	'801	'362	'098	'3681	'6196	78'3
4'016	'971	Not estimated.		'3830	'4549	75'8
4'281	'891	"		'2547	'3438	79'2
4'967	1'047	"		'1122	'0804	78'9
4'524	1'293	"		'0937	'0000	71'4

For the filter had been successfully dealing with one million gallons of sludge for about eight weeks a large quantity of sludge, amounting to ten tons, was run upon it accidentally. This occurred on the week ending 23rd February. The result was an immediate fall in the quality of the filtrate; a putrescent odour was observed; the filter had to be thrown out of work. Remarkable evidence of the recuperative power of the coke breeze was however observed as after 20 days' rest it was quite sweet again, nothing being observed on digging down to a depth of about 2 feet. The coke had only the odour of ordinary earth when moist, and burnt gave no objectionable smell.

During working, 28 days after resting, the following satisfactory results were obtained:—

Oxygen absorbed from permanganate in 4 hours.		Albuminoid ammonia.		Nitrogen as nitrates.		Purification on oxygen absorbed.
Effluent.	Filtrate.	Effluent.	Filtrate.	Effluent.	Filtrate.	Per cent.
3'048	'810	'370	'096	'0000	1'0166	73'5
4'095	'810	'418	'124	'0000	'6350	80'2
2'571	'905	'358	'104	'0000	'6584	64'8
3'238	'705	'401	'123	'0000	'7559	78'3
3'429	'762	'261	'080	'4941	'9438	77'8
4'476	'952	'343	'104	'3335	'8161	78'8
4'381	1'048	'385	'080	'0000	'7008	76'1
2'857	'762	'348	'104	'3171	'6336	73'4

Experiments taken as a whole show that sewage, especially if clarified by precipitation, may be purified to any desired degree by the actual amount of purification depending upon (1) the time during which the effluent is allowed to remain in contact with the filter, and (2) the length of time allowed for aeration. If a sufficient quantity of the oxidisable organic matters in solution be consumed, the quantity that can be treated per diem on one acre of coke breeze is one million gallons, which gives a required area of treatment of the whole of the metropolitan sewage—taken at an average of 180 acres only. This rate is probably the maximum that can be worked under all conditions of seasons. However, only the effluents from the strong day sewage were subjected to filtration, as those from the weak night sewage obtained by on after chemical treatment are sufficiently satisfactory, the treated would be proportionately reduced, viz., to about 120

(To be continued.)

COAL SHIPMENTS.—Last week's Scotch coal shipments showed an enormous increase of 144,000 tons against the corresponding week of last year, when the strike was at its worst.

HALF-YEARLY REVIEW OF SODIUM NITRATE.

IN reviewing the course of the London nitrate market during the past six months, Messrs. Montgomery and Co. point out that the market has been more than usually influenced by extremes of weather. The year opened at 8s. 10½d. per cwt. for arrived, and 8s. 7½d. per cwt. for season's cargoes. The very low price of agricultural produce in Europe had been affecting the value for many months previously, and in January and February there was experienced throughout Europe weather of Siberian severity, which seriously interfered with farming operations. The result was a late demand for all fertilisers, and as cargoes of nitrate arrived, stocks increased, whilst deliveries showed a shrinkage for the months named of no less than 90,000 tons as compared with the previous year. This shrinkage was, as might be expected, accompanied with a fall in price. Throughout March values of arrived cargoes ranged from 8s. 7½d. to 8s. 3d. per cwt., and during April from 8s. 3d. to 7s. 9d. per cwt.

By reason of these low prices the demand in March and April improved to such an extent that the deficiency of deliveries in January and February was not only wiped out, but an increase could then be shown in the consumption to date. Prices, nevertheless, continued to fall in buyers' favour, and during the latter part of April and May a few large cargoes arriving upon an unwilling market, as low as 7s. 9d. per cwt. was touched. From this point there has been an improvement influenced by: First, the low price; second, an aggregate large consumption; third, definite statements that negotiations for the rehabilitation of the combination to restrict supply were in active operation. Eight shillings to 8s. 1½d. per cwt. has been realised freely throughout May and June for ordinary quality due and arrived, and the latter figure is about the closing value. In later positions, summer shipments close at about 8s. 3d. per cwt., and autumn shipments at about 8s. 6d. to 8s. 7½d.

The actual consumption in Europe for the half-year amounts to 640,000 tons, of which the Continent took 559,000 tons, and the United Kingdom 81,000 tons. This represents an increase of 11 per cent. on the Continent, and a decrease of 4½ per cent. in the United Kingdom as compared with the same period last year. The consumption in the United States shows no material alteration, and continues at the rate of about 100,000 tons per annum.

EXPORTS OF ALKALI AND BLEACH.

THE following figures, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries during the month of May, 1895, as compared with the same month in 1894:—

ALKALI.

Port.	1894.	1895.	1894.	1895.
	Cwts.	Cwts.	£	£
Russia	15,460	30,765	5,669	9,669
Sweden and Norway ..	11,253	13,236	2,302	2,698
Germany	12,234	14,178	4,458	3,764
Holland	6,882	9,979	1,465	1,884
France	3,838	4,746	1,533	1,622
Spain and Canaries	28,206	32,245	11,913	12,130
Italy	21,442	23,122	8,113	7,049
United States	242,823	363,778	55,648	78,825
Australasia	29,930	9,760	10,772	3,051
British North America ..	13,279	21,580	3,642	5,794
Other countries	75,715	94,191	24,144	26,202
Total	461,062	617,580	129,657	152,688

BLEACHING POWDER, ETC.

Port.	1894.	1895.	1894.	1895.
	Cwts.	Cwts.	£	£
United States	63,468	76,817	25,718	27,960
Other countries	56,194	64,084	21,588	23,048
Total	119,662	140,901	47,306	51,008

MORE NITRATE WORKS.—Cable advice has been received that the Anglo-Chilian Nitrate and Railway Company's new *oficina* has commenced to work, and is in every way completely satisfactory. It is also stated that another *oficina* just built has begun work within the last few days, and that both these establishments will send their traffic over the company's railway.

THE MERSEY SALT SHIPMENTS.

THE exports of salt from the Mersey during June and the six months ended June 30th show a considerable falling off in each case. Generally speaking the falling off has been all round, though in a few cases small increases are noticed. The only substantial increase is that of the United States, this being from 4,831 tons in June, 1894, to 8,758 tons in June, 1895, and from 21,739 tons during the first six months of 1894 to 45,224 tons in the same period of this year. There is an increase in the quantity of salt sent to British North America from 6,567 tons in June, 1894, to 8,042 tons in June, 1895, but a decrease of from 26,032 tons in the first six months of last year to 20,449 in the same period this year. The tendency shown by the figures relating to the West Indies and Africa is precisely the same, but increases are shown in each case in Central and South American shipments, in those to Australia and the Pacific Islands, and finally in the shipments to other ports in the United Kingdom. To Europe (exclusive of the United Kingdom) there was sent 7,892 tons in June, 1895, compared with 8,833 tons in June 1894, and 27,346 tons in the first six months of this year against 26,875 tons in the same period of 1894. But the greatest falling off appears in the figures for Asian ports, which for all practical purposes mean Calcutta. The total quantity exported to these ports in June, 1895, was 24,637 tons, while in June, 1894, it was 36,919 tons, and in the first six months of this year 88,578 tons were shipped compared with 139,846 tons in the first six months of 1894. The figures for Calcutta are—June, 1894, 35,399 tons; June, 1895, 16,549 tons; first six months of 1894, 129,857 tons; first six months of 1895, 70,964 tons. The total shipments from the Mersey during June, 1895, were 82,535 tons, against 85,153 tons in June, 1894; and for the first six months of the present year 259,067 tons, compared with 290,050 for the corresponding period of 1894. Of these the Liverpool shipments comprise—June, 1895, 55,798 tons; June, 1894, 62,825; first six months of 1895, 203,051 tons; first six months of 1894, 236,893 tons. The decline in the shipments from Liverpool during the past six months is therefore 33,842 tons as compared with the first six months of last year.

POLLUTION OF THE SHIP CANAL.

AT the Manchester County Court, on Tuesday, before his Honour Judge Parry, counsel in the action brought by the Manchester Ship Canal Company against the Corporation of Salford, for polluting the waters of the Canal and river Irwell, attended to settle the terms of an order which had been drawn up. The matter was recently before the court, but an agreement could not be come to as to the exact wording of the form of order which should be made. That had since been settled by counsel. Mr. Sutton now appeared for the Canal Company, and the Corporation was represented by Mr. Roe Rycroft.

The Judge said he had seen the order as suggested, and he thought the terms were fair and reasonable, subject to what Mr. Rycroft might say.

Mr. Rycroft said the order which his friend Mr. Sutton asked the court to make was under section 10 of the Rivers Pollution Prevention Act, 1876. It will be remembered that the Corporation were charged with committing an offence. The Corporation were not charged with failing to perform a duty, but of committing an offence. The Corporation had been adjudged guilty of committing that offence, and he submitted that the Court had no authority to order that they should do certain things as contemplated by the proposed order. All that the court had authority to require the Corporation to do was to abstain from committing an offence.

After argument Mr. Sutton replied, and his Honour said he thought he would leave the order as it was drawn. The order is in the following terms:—"Pursuant to section 10 of the Rivers Pollution Act, 1876. This court doth order that and require the defendants to abstain from causing to fall or flow, or knowingly permitting to fall or flow, into the river Irwell, or into the Manchester Ship Canal, solid or liquid sewage matter, and do forthwith proceed to select and fix upon some efficient system of treating the sewage discharged by them into the river Irwell and the Manchester Ship Canal so as to render the same harmless, and do, without delay, proceed to take all necessary steps towards the construction of such works as may be necessary for bringing the system into efficient operation, including the preparation of the necessary plans and specifications, and the procuring of estimates and tenders, and the sanction of the Local Government Board (if required), for the borrowing of the necessary money to carry out the said works; and that having taken all such necessary steps the defendants do forthwith and without delay proceed to construct the said works and bring them into effective operation. And I adjourn this case till the 1st November, 1895, and direct that the defendants do, seven days before that date, deliver to the Registrar of this court and the plaintiffs, a statement in writing of what has been done by them since the making of this order by way of compliance with the provisions thereof, and I give the plain-

tiffs leave to apply upon the 1st November, 1895, for any order may deem themselves entitled to under the provisions of section of the Rivers Pollution Act, 1876, on the ground that the defendant not complied with the provisions and requirements of this order. I further order that the defendants do pay to the plaintiffs costs of action on scale C, and I certify that the case involved a novel and difficult question of law and was of public and general interest, to allow the costs of qualifying and attendance of the plaintiffs' witnesses, and of plans and models, and I give all necessary certificates for counsel."

Mr. Sutton asked for the costs of the application.—His Honour, however, said he thought each party should pay their own costs.

THE HOLOPHANE GLOBES.

ONE of the most important advances in connection with the electric arc and incandescent gas lighting is the introduction of Messieurs Blondel and Psaroudaki's diffusion globes by Mr. S. 35, Queen Victoria-street, London, E.C. They apply the Fresnel lighthouse lense system to household purposes. Their chief me-



that while completely diffusing the glare of sources of intense light they yield an increased illumination over the ordinary bare light at angles below the horizontal, that is to say in the direction where illumination is most needed. Experiments with the new form of these globes show the gain to be 12 per cent. in the infra-horizon field. This end is attained by grooving on scientific principles, the outside being grooved horizontally, and the inside vertically.



amount of light absorbed in accomplishing this much desired perfect diffusion of light is only 9 to 13 per cent., being about the same as plain transparent glass, ground glass or opal globes giving comparatively diffusion absorb 70 per cent., and those giving partial diffusion 40 to 35 per cent. respectively. To summarise, these globes, it will be seen, are made of absolutely transparent glass, diffusing and distributing light through series of fine grooves, cut according to optical laws, are manufactured in all shapes, spherical globes, tulips, cones, suitable for incandescent gas burners, arc and incandescent electric lights, and oil lamps.

ESTIMATING WATER AND ACIDITY IN AMMONIUM SULPHATE.

By J. HUGHES, F.I.C.

It is not generally usual to state the percentage of water present in commercial samples of sulphate of ammonia.

Occasionally chemists are asked to do so, also to state the amount of nitrogen, and in such cases the figures are given; but usually only the percentage of nitrogen equal to ammonia is reported.

The writer thinks that it would be desirable and useful that the percentage of water lost at 212° F., and the acidity expressed as H_2SO_4 , should always accompany the figures for nitrogen and ammonia on the certificate.

Sulphate of ammonia, when ground up in a mortar, rapidly loses its water in a hot dry atmosphere.

Consequently, in order to make a correct report on the percentage of nitrogen contained in the sulphate of ammonia in its natural state as received, it becomes necessary to make two water determinations. One on the sample as turned out in its rough damp state before grinding, and one in the finely ground portion prepared for the purposes of analysis; the analytical results being afterwards calculated into the percentage state as received and reported accordingly.

The question of water really is a most important one, bearing in mind the commercial value of the material and the fact that every 1 per cent. of water lost represents an increase of 0.25 per cent. of ammonia. It is true that the introduction of centrifugal machines has largely reduced the proportions of water and acidity in the sulphate of ammonia as received; but there is still sufficient difference between the damp state respectively at the top and the bottom of the bags, to make the difference a matter of great importance.

Following twelve samples, representing one delivery of yellow sulphate of ammonia, were furnished the writer by a large London firm, six bags being selected, and samples drawn respectively from the top and bottom of each.

The proportions of water and acidity were then carefully determined as suggested, a weak solution of litmus being employed as an indicator in titration for acidity.

Top Samples.

	Water as received.	Water as analysed.	Water lost during preparation.	Free acid calculated as H_2SO_4 .
1	1.98	1.26	0.72	0.97
2	1.81	1.42	0.39	0.63
3	1.59	1.20	0.39	0.65
4	0.87	0.48	0.39	0.81
5	1.12	0.50	0.62	0.79
6	1.32	0.72	0.60	1.03
Average ...	1.45	0.93	0.52	0.81

Bottom Samples.

	Water as received.	Water as analysed.	Water lost during preparation.	Free acid calculated as H_2SO_4 .
1	2.62	1.64	0.98	1.24
2	2.65	1.94	0.71	0.81
3	2.53	1.76	0.77	0.80
4	3.14	2.12	1.02	1.22
5	1.97	1.24	0.73	0.71
6	2.39	1.84	0.55	1.07
Average ...	2.55	1.76	0.79	0.97

It will be noticed that the differences are considerable, the top samples being much drier than the bottom ones, in No. 4 the difference being as much as 2.27, representing 0.56 ammonia; and the water loss during preparation amounting in some cases to over 1 per cent., representing 0.25 ammonia.

Of course this loss during preparation will vary with the degree of drying, the time exposed, and the temperature and humidity of the atmosphere.

The following figures in seven other samples, each representing a delivery and analysed at a different time, will serve to indicate the variation that may be expected:—

Colour.	Water as received.	Water as analysed.	Water lost during preparation.	Free acid calculated as H_2SO_4 .
White ..	2.20	1.80	0.40	0.29
Yellow ..	1.94	1.50	0.44	0.31
Yellow ...	2.31	2.06	0.25	0.15
Grey	2.96	2.74	0.22	0.38
White ..	1.70	1.10	0.60	0.15
White ...	1.90	1.40	0.50	0.23
White ..	1.89	1.32	0.57	0.25
Average	2.13	1.70	0.42	0.25

The amount of acidity is of importance, because if not excessive, say not more than 0.5 per cent., the sulphate of ammonia can safely be shipped in double bags instead of in the more expensive casks which were formerly used.

If the certificate of the analyst contains information as to the percentage of water and acidity, in addition to the figures for nitrogen equal to ammonia, the identity of the sample with the bulk can be more readily established than when the figures for ammonia only are stated.

REPORT ON METRIC WEIGHTS AND MEASURES.

THE Select Committee appointed to inquire whether any, and what, changes in the present system of weights and measures should be adopted have agreed to the following report, which has been published as a Parliamentary paper:—

They have, in the first place, received evidence from witnesses representing many different interests—(1) official, (2) commercial, (3) manufacturing, (4) trade, (5) educational, (6) professional.

They have also received from numerous corporations, school boards, and other public bodies resolutions without exception in favour of the adoption of the metrical system.

Your committee find that almost all the witnesses express a strong opinion as to the complicated and unsatisfactory condition of our present weights and measures and of the distinct and serious drawback to our commerce, especially our foreign trade, which this system entails, differing as it does from the system (metrical) now adopted by every European nation except ourselves and Russia, as well as by far the majority of non-European countries with which this kingdom trades. The evidence, however, goes further to show that not only is our foreign trade in every branch seriously handicapped, but that the home trade would be benefited if more simple and uniform standards of weights and measures than those now existing were adopted.

Moreover, strong evidence was brought forward as to the serious loss of time incurred by English school-children in having to learn the complicated system of tables of existing weights and measures, and the urgent need of the adoption of a simpler system. It was stated that no less than one year's school time would be saved if the metrical system were taught in place of that now in use.

Evidences from competent witnesses proved to the satisfaction of your committee that a compulsory change from an old and complicated system to the metrical had taken place in Germany, Norway and Sweden, Switzerland, Italy, and many other European countries without serious opposition or inconvenience; that this change was carried out in a comparatively short period; and that as soon as the simple character of the new system was understood it was appreciated by all classes of the population, and no attempt to use the old units or to return to the old system was made.

In the United States, where a system founded on the English units exists, a commission is at present engaged in an investigation of the same character as that with which your committee is charged, and the Federal Government has this year passed an Act rendering the metrical system compulsory for pharmaceutical purposes.

Your committee believes that the adoption of the metrical system by England would greatly tend to render that system universal.

Your committee recommend:—

(a) That the metrical system of weights and measures be at once legalized for all purposes.

(b) That after a lapse of two years the metrical system be rendered compulsory by Act of Parliament.

(c) That the metrical system of weights and measures be taught in all public elementary schools as a necessary and integral part of arithmetic, and that decimals be introduced at an earlier period of the school curriculum than is the case at present.

The Select Committee was constituted as follows:—Sir John Barran, Mr. Burt, Mr. Crombie, Mr. Woods (in the place of Mr. C. Fenwick), Mr. Alban Gibbs, Mr. Godson, Sir Edward Hill, Mr. Justin McCarthy, Sir Samuel Montagu, Mr. Jasper More, Sir Albert Rollit, Sir Henry Roscoe, Mr. James Stevenson, Mr. Stewart Wallace, Mr. Webster, Mr. Whiteley, and Mr. Wrightson.

THE INFLAMMABILITY OF TEREBENE.—Writing to a contemporary on this point Mr. T. Wilton describes the following experiment. He moistened a piece of rag, 3 feet square, with a mixture of terebene, linseed oil, and turpentine—materials which are in constant use by painters. The rag was then rolled up into a ball, with a thermometer placed in the centre; and, on being left, the following were the results: During the first hour, the temperature rose from 20° C. to 87° C., and the rag began to fume; in the next hour, the temperature increased to 310° C.—the rag fuming strongly; while half an hour later the rag was burning, the temperature being 360° C.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Treating Ramie Fibre, etc. R. W. E. McIvor and J. Chester. 12,218 June 24.
Artificial Stone. E. M. Arndt and G. De Bruyn. 12,242. June 24.
Improvements in Electro-deposition. J. C. Graham. 12,244. June 24.
Producing Oxygen Gas. A. Sweetser. 12,245. June 24.
Artificial Rubber. J. Bibby. 12,249. June 25.
Extracting Gold and Silver from Ores. J. J. Crooke. 12,250. June 25.
Extracting Silver from its Ores. J. J. Crooke. 12,251. June 25.
Preparation of Chemicals for Testing and other Purposes. W. Oppenheimer. 12,304. June 25.
Utilising Nitre Cake and other Acid Sulphates. J. D. Darling. 12,305. June 25.
Generating Acetylene Gas. J. H. Exley. 12,344. June 26.
Treating Metallic Oxides. P. Cannel-Bunn. 12,370. June 26.
Condensing and Cooling Acid Vapours. E. Hart. 12,383. June 26.
Drying Slurry by Waste Cement Kiln Heat. W. Joy. 12,391. June 26.
Viscosity Apparatus for Fluids. E. Edwards. 12,467. June 27.
Fertilizing with Artificial Nitrogenous Manure. H. Mehner. 12,470. June 27.
Producing Nitrides and Ammonia. H. Mehner. 12,471. June 27.
Improvements in Manufacture of Soap. Read Holliday & Sons and Thos. Holliday. 12,519. June 28.
Electrolysis of Salts, Oxides, and other Compounds. J. B. Torres. 12,526. June 28.
Extracting Distillation Products from Sawdust and Wood Waste, etc. F. J. Bergmann. 12,537. June 28.
Hematite Slag Manure. H. P. Pease. 12,566. June 29.
Improvements in Accumulator Cells. A. Müller. 12,622. June 29.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

Improvements in the Manufacture of Bleaching Powder and other Hypochlorites. W. L. Wise, 46, Lincoln's Inn Fields, London (Solvay and Co., Belgium). Eng. Pat. 14,986. Aug. 4, 1894.

The fact that the chlorine and hydrogen evolved in the electrolytical decomposition of alkaline chlorides become mixed together has, according to the patentee, been considered a serious drawback, because, owing to the explosive nature of the gaseous mixture, it cannot be used with any degree of safety in the manufacture of bleaching powder. The patent, therefore, consists in adding hydrogen gas as a diluent to render the mixed gases as evolved from the cell in explosive, the added hydrogen having no effect upon the formation of bleach in the usual way. It is proposed to use the actual gaseous mixture as evolved by absorbing the chlorine in a mechanical chlorinator of small capacity, and to utilize the residual hydrogen for diluting as above described. For the preparation of other hypochlorites the liquid process of absorption is suggested, by which the mixture of chlorine and hydrogen can be used direct without any inconvenience.

Improvements in Grate-bars for Garbage Cremating Furnaces. H. H. Lake, 45, Southampton Buildings, London (American Garbage Creamator Company). Eng. Pat. 8,242. April 25th, 1895.

In garbage cremating furnaces, especially those in which the flame passes under the grate for the combustion of the garbage, a difficulty is experienced by reason of the excessive heating of the fire-bars causing them to bend, and also to burn out. This is mainly due to the material to be burned arching over from one bar to another, and thus separating the main body of the material in such a way that the flame underneath the bars cannot get through. To obviate this the patent proposes to employ a specially designed grate-bar, the cross section of which is in the shape of an acute angled isosceles triangle. The bars are by preference about 10" high, 34" broad at the base, and about 8ft. long, being arranged about 12in. apart at the base. The sharp edge tends to separate the material, which, as the heat from the bars and furnace dries it, settles between the base of the bars coming in contact with the flame and being consumed. Three drawings show the arrangement of the bars in plan, transverse, and longitudinal section.

Improvements in the Manufacture of Sulphuric, Nitric, and Nitrous Acid, and of Sulphate of Soda, Oxide of Iron, and Alumina.—M. Garroway, Duke-street, Glasgow. Eng. Pat. 2,466. Feb. 5th, 1895.

The object is to prepare nitric or nitrous acid by heating a mixture of nitrate of soda and copperas or alum, obtaining sulphate of soda and oxide of iron, or alumina, as residual products, as the case may be.

The nitrous gases can be used direct in the vitriol chambers, or condensed in the usual way and recovered. The sulphate of soda is

separated by solution in water, concentrated and crystallized out, the insoluble oxides of iron or aluminium being washed and dried. The red oxide of iron so obtained is of more than ordinary value as a pigment, owing to freedom from acidity, which generally exists in oxide made by roasting copperas in the usual way.

The copperas and nitrate of soda are used in chemically equivalent proportions, allowance being made for the impurities always existing in the commercial articles. The proportions may be varied, however, and the copperas used with more or less water of crystallization. In vitriol making the heat of the pyrites burners is utilised for heating the mixture to a dull red, the usual form of nitre pot answering very well. If the acid gases are to be condensed, however, suitable cast iron retorts, specially heated, are employed, as in the manufacture of nitric acid.

Improved Method or Process for the Treatment of the Ores of Nickel and Cobalt. Dr. C. Hoepfner, Giessen, Germany. Eng. Pat. 11,307, June 11th, 1894.

The patent sets forth the treatment of nickel and cobalt oxides, carbonates or silicates, for the recovery of these metals. Contrary to the customary methods of smelting, sulphurets of copper are used with the ores of nickel and cobalt for the preparation of a matte containing about 60 or 70% of valuable metals. The proportion of nickeliferous and sulphuretted ores is regulated by the composition of the former, as revealed by analysis, particulars being given of the proportions for a suitable mixture whereby a rich matte and an easy fusible slag are obtained. Various methods of separating the nickel and copper may be employed, preference being given to the combined electrolytical and cupric chloride process, which is set forth in detail in patents 4,626 (1888), 18,080 (1890), 18,900 (1892), 22,030 (1891). A method is also described whereby the chlorides of nickel and cobalt obtained by the cupric chloride process are treated electrolytically with insoluble anodes, the chlorine liberated being employed for the extraction of new portions of metals, re-converting cupreous into cupric chloride, or extracting gold by chlorination.

Improvements in or relating to the Manufacture or Treatment of Bicarbonate of Soda. W. L. Wise, 46, Lincoln's Inn Fields, London (Solvay and Co., Belgium). Eng. Pat. 14,985. August 4, 1894.

As centrifugals or filter presses leave a certain amount of ammonium chloride in bicarbonate of soda prepared by the ammonia soda process, and the necessary subsequent washing is tedious by reason of the relatively high solubility of the bicarbonate, it is suggested that the washing should be effected as follows, on the principle of displacement by density:—

The bicarbonate having been deposited in a suitable cylinder with a perforated false bottom, and drained as far as possible from the mother liquor, a saturated solution of bicarbonate (of about the same volume as the impregnating mother liquor) is carefully poured upon the deposited bicarbonate of soda and allowed to displace the mother liquor by reason of its superior density. The bicarbonate so washed, however, contains too much water. It is, therefore, run into a trough, fitted with an agitator, and in which the lower half of a hollow cylinder, rotating on a horizontal axis, is immersed. The cylinder, which is perforated and covered with flannel or other suitable filtering medium, is exhausted so as to maintain a vacuum of about 30 inches of mercury. By means of the suction and rotation, a uniform and almost dry crust of bicarbonate collects round the cylinder, and may be removed by a knife or scraper, and collected in a suitable receptacle.

Improvements in or relating to the Separation of Caustic Alkalies from the Liquors obtained by the Electrolysis of Alkaline Salts. W. L. Wise, 46, Lincoln's Inn Fields, London (Solvay and Co., Belgium). Eng. Pat. 14,987. Aug. 4, 1894.

In the electrolytical decomposition of alkaline chlorides only about 10% of caustic alkali is obtained, which is not easily removed from the unchanged chloride. Concentration to the salting-out point of the chloride is obviously attended with many drawbacks. Instead of evaporating, this patent proposes to precipitate the chloride by the addition of a previously prepared solution of caustic soda of about 77° Twaddell. The solution so obtained, when separated, can easily be evaporated by means of a triple-effect apparatus. The separation presents difficulties, however, owing to the salts and liquor forming a mud which by compression, draining, or suction yields only a small quantity of caustic liquor. To overcome the difficulties the following method of washing is adopted. The magma of salt and caustic liquor is placed in a cylindrical steam-jacketted vessel with a perforated false bottom, and heated to 100° C. A saturated solution of brine of the same volume as the impregnating caustic liquor is then introduced by suitable means on to the top of the mixture. On opening a draw-off cock at the bottom of the cylinder a molecular displacement, so to speak, takes place. The discharge cock is closed when the causticity of the drainings practically ceases. The caustic liquor is thus obtained without dilution, and a mother liquor also obtained for a succeeding operation. The heating to 100° C. is important, as the washing takes place much less regularly in the cold.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are, if anything, a trifle dearer, but it is doubtful whether the change will be for long. Carbolic acids are steady, with crude, 60%, at 1s. 8d., and crystals, 40%, 6½d. There is no change in either naphthas, both of which are rather quiet. Creosote and anthracene are unaltered. Pitch steady at 37s. to 37s. 6d., f.o.b. East Coast.

Sulphate of ammonia is easy. There has not been much sulphate offering, but the demand has been so small that prices have for the most part been low. Quotations for forward at but slight advances of present spot values continue to be circulated. Nearest values are:—London £9. 15s., Liverpool £9. 12s. 6d., Hull £9. 11s. 3d., and Leith £9. 10s.

REPORT ON MANURE MATERIAL.

The market continues very quiet, and there is but little of interest to report. In regard to mineral phosphates the attitude of sellers and buyers is unchanged, and quotations remain as last reported. The nominal value of cargoes of River Plate bones is £4. 5s. per ton, delivered good United Kingdom ports, but there has been no recent business to test the actual value. £4. 7s. 6d. per ton asked for crushed Kurrachee bones, autumn shipment, and £4. 10s. for East Indian bone meal in the same position. On spot £4. 5s. per ton accepted, ex quay, for Kurrachee bone meal. Nitrate of soda is quiet at 8s. 1½d. to 8s. 3d. per cwt. on spot. Autumn shipments are worth about 8s. 6d. per cwt., but there is very little doing so far ahead. Dried blood offers at 9s. per unit, f.o.r., at works, without finding buyers.

MISCELLANEOUS CHEMICAL MARKET.

Business continues fairly satisfactory, and prices generally are steady. There are no changes of importance to report. Bleaching powder is in rather better request, but prices are unaltered; spot quotations are: £6. 17s. 6d. softwood, rails, and £7. 2s. 6d. hardwood, f.o.b. Caustic soda is steady, but the actual business passing is not large; prices are without change. Soda crystals dull at 32s. 6d., bags, and 37s. 6d., casks. Saltcake, if anything, a little stronger, and 15s. may be taken as its value at works to-day. Chlorates of soda and potash remain quiet; prices to-day are: soda, 6¼d. per lb.; potash, 4¾d. per lb, though with business in hand something lower would be possible. Nitrate of soda continues in small demand, prices ranging from £8. 2s. 6d. to £8. 7s. 6d. per ton, according to quality and quantity. Lead salts remain flat. White powdered arsenic very strong, and in good request at £15., at Garston. Acetates of lime show no material change; brown is worth £5. 12s. 6d. to £5. 15s. per ton, spot, and grey £9. 10s. For forward delivery there is a firmer tendency. Yellow Prussiate of potash still depressed, and price is weak: 7¾d. per lb. is nominal value to-day. Oxalic acid moves slowly at prices varying from 3½d. to 3¾d., according to quality. Caustic and carbonate of potash are firm and in good demand—caustic at £19. 15s. and carbonate at £17., c.i.f. Carbolic acids are firmly held: crystals, 39/40°, is worth 6½d., and crude, 60s, 1s. 7d.

LIVERPOOL MINERAL MARKET.

Our market has been somewhat brisker this week, but prices are not materially altered. Manganese: There are no arrivals this week. Ground manganese is in exceptionally strong demand at £6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore continues very quiet, without any alteration in price, which remain at 15s. to 17s. 6d. per ton, c.i.f., in cargoes. Bauxite: Irish Hill brand continues in good demand for alum, sulphate of alumina, and aluminium manufacture; prices remain firm at 20s. per ton for first quality, 16s. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. Chrome ore: There have been only few arrivals this week, but they have all gone direct into consumption, and prices are very firm at £5. 10s. per ton for prime high strength ore, and 70s. to 75s. per ton for other qualities. French chalk: There are no arrivals this week, and stocks have been further reduced: "Angel White" brands continue in good demand at 65s., 70s., and 77s. 6d. per ton, and "Gold Medal" brands at 90s. to 110s. per ton. Plumbago: The demand for foundry and lubricating qualities still continues good at £6. to £8. 10s. per ton, with other grades in proportion. Barytes: Carbonate continues in rather quiet demand at 70s. per ton for smalls and 85s. to 110s. per ton for lump, according to quality; for powdered the demand is strong, particularly for export.

Sulphate, both lump and powdered, is in good steady demand, the prices of powdered being firm at: No. 1, 60s., No. 2, 55s., and No. 3, 47s. 6d. to 50s. per ton. Fuller's earth: The demand is good, for the higher qualities particularly: lump, 50s. to 55s. per ton; ground about 55s. per ton; and impalpable powder, 80s. per ton. Ochres and umbers are in fair demand, but without change in price: J.C. ochre being done at 60s. per ton, and prime levigated umber at 40s. to 60s. per ton, f.o.r.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is dull, and prices are easier by 5s. to 10s. per ton, at which reduction fairly good sales have been made. Olive is steady, with a fairly good inquiry. Candia has been sold at £32. per ton. Linseed is firm and slightly dearer, at 22s. 9d. to 23s. per cwt. for Liverpool makes in export casks. Cottonseed, however, is decidedly flat, with Liverpool refined at 18s. to 18s. 6d., and American 18s. per cwt. Castor oil is quiet in regard to demand, without any change in prices. Tallow remains in *statu quo ante*. Resin is steady, though the demand is rather limited. Spirits of turpentine keep steady at the reduction, being now quoted 22s. per cwt. Petroleum remains at 6¼d. to 8½d., according to quality for American, and 6d. for Russian refined.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15. Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead unchanged. Venetian red, £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide, £22. 10s. to £25.

THE METAL MARKET.

LONDON, WEDNESDAY.—Pig iron, steady; Scotch warrants closed at 44s. 6½d. Middlesbrough 35s. 10½d. cash, and hematite 44s. 8d. Copper, firm: Chili bars, G. O. B.'s and G. M. B.'s, closed at £43. 7s. 6d. to £43. 12s. 6d. cash, and £43. 13s. 9d. to £43. 18s. 9d. three months. Tin, active: Straits closed at £63. 10s. to £64. cash, and £63. 15s. to £64. 5s. three months; Australian, £64. 7s. 6d.; English ingots, £67. 10s. Lead: Spanish, £10. 10s.; English, £10. 12s. 6d. to £10. 15s. Silesian spelter, ordinary, £14. 13s. 9d. to £4. 15s. Nickel, 1s. 2d. Antimony, £32. Quicksilver: first hands, £7. 5s.; second hands, £7. 4s. Copper shares, steady: Cape, 1½ to 2½; Copiapo, 2 to 2½; Libiola, 3¼ to 3½; Mason and Barry, 2½ to 2¾; Rio Tinto, 16½ to 16¾; Tharsis, 4½ to 4¾.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The Scotch makers of paraffin spirit or naphtha (the mineral companies) had a meeting by delegates last week, and decided to put the article up to 7d. at once. It was also agreed to add another penny at the end of August, and hold it at not lower than that till March, 1896. There is an increasing call for this article for manufacturing uses. As yet there is no other change in the oil products of these makers, but the period for the annual contracting as to burning oil approaches (August), and makers will have to decide soon whether they are to stick to the present nominal figure or give way a little for the sake of a freer booking of orders. Sulphate of ammonia has further weakened, and last week one buyer got supplied at £9. 11s. 3d., good quality. This concession by other makers was not thought warrantable, though the article was certainly not lively, and the mean figure to-day is held at £9. 12s. 6d. Ordinary chemicals quite unchanged. All the works of this quarter close by Friday at latest, and some will not re-open for a fortnight or more.

Chief prices current are:—Soda crystals, 35s. to 37s. 6d. nett, Tyne; soda ash, 48/52°, £3. 15s. to £4. 10s. nett, Tyne; white alkali, 48/52°, £4. 10s. to £5. 5s. nett, Tyne; alum in lump, £5. 10s. nett, Glasgow; caustic soda, white, 74° £9., 70/72° £7. 15s., 60/62° £6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching powder, £6. 5s. to £7., nett, Tyne; saltcake, 17s. 6d.; borax, English refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¼d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 5d. less 5%, Liverpool; nitrate of soda, 8s. 3d. to 8s. 6d.; sulphate of ammonia, £9. 12s. 6d. prompt f.o.b. Leith;

oniac, first and second white, £39. and £37. nett, any port; of copper, £15. 12s. 6d., less 5%, Liverpool; paraffin scale, hard, and soft, 1½d. to 2½d. per lb.; paraffin wax 120° semi-refined, 2½d.; paraffin spirit (naphtha), 7d. per gallon; paraffin (ring), No. 1 6½d., and crystal 6¾d., at works, for buyers (English sales 1d. lower); ditto (lubricating) 86½°, 88½° £4. 10s. to £5., and 890/895° £5. to £5. 10s. Week's of sugar at Greenock were 21,000 bags.

WALL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

Business remains quiet. The principal imports up to date with the same period a year ago has been: Linseed, qrs., against 226,961 qrs.; rape seed, 79,286 qrs., against qrs.; cottonseed, 98,997 tons, against 118,764 tons. Olive oil, qrs., against 12,383 qrs.; rape oil, 5,023 casks, against 4,266 oilcasks, 8,415 tons, against 9,596 tons; tallow, 7,846 cwt., 11,629 cwt.; turpentine, 8,865 barrels, against 11,681 barrels. of resin arrived here July 5th. Linseed oil rather firmer again, naked paid on the spot; July-August quoted 20s. 3d.; and last months, 19s. 3d. Boiled and refined from £1. to £2. per ton. The export for the week has been 1,440 cwt. Refined cotton dull: spot naked, 16s. 1½d.; forward July-August, 16s. 3d.; per-April, 16s. 6d. Crude, on the spot, offers at 14s. 6d., casks, and ordinary barrels, 27s. 6d. per ton extra. The export of oil for the week has been 2,820 cwt. Rape oil quiet and un-
Spirits of turpentine quieter at 22s. 6d. Cod oil from £17. per ton. Olive oil unchanged. Siccative oil from £12. per ton. oil 2½d. per lb. for first pressure. Herring oil scarce.
ES.—Linseed quiet: 95% pure, £5. 17s. 6d. to £6. per cussian, £5. 15s. Oil cakes, £5. 2s. 6d. to £5. 7s. 6d. cakes in limited request: best makes, £3. 15s. to £3. 17s. 6d.; £3. 12s. 6d. Rape cakes unaltered.
TS.—Makers continue very busy. Prices are: Oxide of zinc red; white lead, £16. per ton; red lead, £14. per ton; red, dry, £4. per ton; in oil, £11.; yellow ochre, £3. 17s. oil, £11.; blue-black and mineral black from £3. 15s. per ultramarines, from 3d. to 8d. per lb.; vermilionettes from s. per lb.; black paint, blue, green, and yellow, from £11.; imperial black varnish from £5. 10s. per ton; paint remover, 10s. per cwt.; oak varnish from 5s. 6d. per gallon.

TYNE CHEMICAL REPORT.

TUESDAY.

icals continue quiet, with a fair business doing. Soda crystals er scarcer, the output being reduced owing to the hot weather. steady at £3. 17s. 6d. Caustic, 76/77%, £9. 5s. to £9. 10s.; 7. 15s.
hing powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton, austic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; 48%, £3. 15s. per ton, nett; do., 52%, £4. 2s. 6d. per ton; do., 56%, £4. 10s. per ton, nett; alkali, 36%, £2. 15s. nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. ton, nett; do., 52%, £5. per ton, nett; hyposulphite of 7 cwt. casks, £6. per ton, nett; do., 1 cwt. kegs, £6. 12s. 6d. nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. nett; soda crystals, casks, £1. 17s. 6d. per ton weight; do., 2 cwt. bags, £1. 17s. 6d. per ton, nett; of potash, 5¼d. per lb., less 6%; pearl hardening, ton, nett; pure white sulphate of alumina, £4. 2s. 6d. nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, per ton, nett; carbonate of alumina, £28. 15s. per ton, luminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. ton, nett.
C.—South Durham salt steady, at 9s. to 9s. 6d. per ton, res.

COALS are practically without change, and collieries keep fairly well employed. Best Northumbrian steam, 8s. 9d. to 9s. per ton; second quality ditto, 7s. 9d. to 8s. per ton; small steam, 3s. 3d. to 3s. 6d. per ton; gas coals quiet, 6s. 3d. to 6s. 6d. per ton; bunker coals plentiful, 6s. 3d. to 7s.; coke firm, 13s. to 14s. per ton.

New Companies.

Wrigley and Co., Ltd.—CAPITAL £1,000., in £1. shares. This company has been formed to carry on the business of chemists and drysalters, drug dealers, &c.

Standard Electro-Galvanising Co., Ltd.—CAPITAL £4,000., in £1. shares, of which 500 are deferred. The object is to galvanise iron, steel, and other metals and articles.

Harlequin Soap Syndicate, Ltd.—CAPITAL £10,000., in £1. shares. This company has been formed to carry on the business of soap manufacturers, chemists, &c. The subscribers are:—F. G. Bate, 55 and 56, Chancery-lane, W.C., agent; J. R. Brough, 29, Alexandra Villas, Finsbury Park, stationer; G. M. Barrow, 71, Marine Parade, Brighton, director of company; G. H. Leaf, Wallington, Surrey, gent.; L. W. Hawkins, 48, Dafforne-road, Tooting, clerk; A. H. Deakin, 98, High Holborn, W.C., merchant; R. R. Saunders, 9, Lampton-road, Hounslow, accountant.

W. and J. Sommerville, Ltd.—CAPITAL £50,000., in shares of £10. each. This company has been formed to acquire and carry on the business of paper manufacturers, at Golden Valley Paper Mills, Glos., now carried on by Messrs. W. and J. Sommerville. The subscribers are:—W. Sommerville, J. P., The Grange, Bitton, Glos., paper maker; Mrs. M. G. Sommerville, The Lous, Bitton, Glos.; E. M. Sommerville, The Lous, Bitton, Glos., paper maker; W. Sommerville, jun., The Grange, Bitton, Glos., paper maker; S. F. Sommerville, The Lous, Bitton, Glos., paper maker; C. P. Sommerville, The Grange, Bitton, Glos., gent.; Miss J. M. Sommerville, The Lous, Bitton, Glos.

Levinstein, Ltd.—CAPITAL £90,000., in £10. shares. This company has been formed to acquire all or any part of the business of I. Levinstein and Company, Limited; to adopt and carry into effect an agreement to be made between the said I. Levinstein and Company, Limited, of the one part and this company of the other part; an indenture expressed to be made between the Farbenfabriken Vormals Friedr. Bayer and Company of the first part, the Actien-Gesellschaft fur Anilin Fabrikation of the second part, Ivan Levinstein of the third part, I. Levinstein and Company, Limited, of the fourth part, and this company of the fifth part; also, to carry into effect an agreement made by this company with I. Levinstein; and, generally, to carry on business as manufacturers and producers of and dealers in every description of chemicals, drugs, colours, dye stuffs, pharmaceutical preparations, and other goods, both wholesale and retail. The subscribers to the memorandum of association are:—J. W. Radcliffe, Werneth Park, Oldham, shares, 100; H. T. Bottinger, 18, Britterstrasse, Elberfeld, Germany, 100; J. B. Lonsdale, Egerton Lodge, Bury Old-road, Manchester, 100; I. Levinstein, Hawkesmoor, Fallowfield, Manchester, 960; E. Partington, Easton, Glossop, 200; O. Isler, 35 and 37, Dickenson-street, Manchester, 50; J. Burger, 1, Birch-avenue, Old Trafford, 100; W. Liebmann, 18, Marsden-street, Manchester, 30; A. Studer, 18, Marsden-street, Manchester, 30.

Gazette Notices.

PARTNERSHIP DISSOLVED.

E. C. CLARKE and A. J. PILKINGTON, under the style of Ingram and Clarke, Liverpool, marble, cement and lime merchants.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudications.

NUGENT, J., trading as T. and J. Nugent, Newcastle-on-Tyne, salt and whiting merchant.

OLDFIELD, WILLIAM W., trading as William Oldfield and Sons, Manchester, belting manufacturers.

IMPORTS OF CHEMICAL PRODUCTS

AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 29th.

Acid—

1, 150 pkgs. Beresford & Co.
70 F. J. Putz & Co.

Holland, 217 A. & M. Zimmermann
Acetone—
Holland, 3 pkgs. T. H. Lee
Alum—
Belgium, 33 pkgs. R. W. Greeff & Co.

Holland, 143 Ohlenschlager Brs.
Aluminium—
Germany, 48 H. Lambert
Holland, 344 G. Rahn & Co.
Ammonium Chloride—
Holland, 8 pkgs. H. Lorenz

Antimony Ore—
Sydney, 15 t. H. Bath & Son
Asbestos—
Canada, £342 W. Byford
Italy, 490 Baynam & Co.
" 150 Brit. Asbestos Co.

Italy, 332	Imperial Asbestos Co.	3 cs.	Girard Frs. & Co.
Germany, 19	Craven & Co.		
Barium Chloride—			
Holland, 23 pks.	Petri Bros.		
Barytes—			
Holland, 22 cks.	W. Pope & Co.		
" 42	Brammerstoedt & Luders		
" 6	Beresford & Co.		
Belgium, 112	J. L. Lyon & Co.		
Holland, 11	cs. Harrison & Co.		
" 22	J. Owen		
Germany, 20	T. Robertson & Co.		
Boracic Acid—			
Italy, 4 pks.	G. Boor & Co.		
" 5	R. Morrison & Co.		
Camphor—			
Germany, 2 pks.	L. & I. D. Jt. Co.		
Japan, 288	T. H. Lee		
Hong Kong, 2,407 pks.	Hale & Son		
Caoutchouc—			
France, 130 c.	Stiebel Bros.		
Madagascar, 9	Procter Bros.		
Rangoon, 419	L. & I. D. Jt. Co.		
E. Indies, 63			
Natal, 35	Lewis & Peat		
Madagascar, 1	Kleinwort Sons & Co.		
Carbolic Acid—			
Germany, 10 pks.	Rosenberg, Loewe & Co.		
Castor Oil—			
Italy, 4 cs.	G. V. de Luca Hill & Co.		
" 20 pks.	A. & M. Zimmermann		
France, 4	W. G. Frith & Co.		
Italy, 20	A. Laming & Co.		
" 10	Langton, Edden & Co.		
France, 10	F. Boehm		
Italy, 4	Baird Bros.		
E. Indies, 176 cks.	Ross & Deering		
Caustic Potash—			
Belgium, 57 c.	Petri Bros.		
Holland, 348	J. M. Steel & Co.		
Caustic Soda—			
Holland, 1 cs.	J. Barber & Co.		
Chemicals (otherwise undescribed)			
Germany, 31 pks.	T. H. Lee		
Holland, 14	J. Barber & Co.		
France, 432	G. Lamaille & Co.		
Holland, 35	Phillips & Graves		
" 9	F. Boehm		
Belgium, 12	J. Graves		
" 7	T. Palmer		
Germany, 2	L. & I. D. Jt. Co.		
" 61	A. & M. Zimmermann		
Denmark, 12			
U. States, 50	Anderson, Weber & Smith		
Germany, 17	5 Phillips & Graves		
Cream of Tartar—			
Holland, 2 pks.	Kirkpatrick & Co.		
France, 18	W. C. Bacon & Co.		
Italy, 18	Fellows, Morton & Co.		
France, 5	B. & F. Wf. Co.		
" 2	Ldn. & W. Eng. Yeast Co.		
U. States, 50	Anderson, Weber & Smith		
Dextrine—			
Germany, 50 pks.	M. D. Co.		
Dyestuffs—			
Aniline			
Germany, 1 pks.	H. Lambert		
Anthracene			
Holland, 171 pks.	Burt, Boulton & Co.		
Argols			
Italy, 74 pks.	Thames S. T. & L. Co.		
Cochineal			
Canaries, 7 pks.	G. S. Bruce		
Cutch			
U. States, 10 pks.	H. A. Litchfield & Co.		
Rangoon, 151	A. Howden & Co.		
" 10	L. & I. D. Jt. Co.		
" 50	Arracan Co., Ltd.		
Divi Divi			
Holland, 58 pks.	Walker, Munsie & Co.		
Extracts			
Denmark, 1 pks.	Pickford & Co.		
" 35	McDougall & Co.		
Germany, 400	T. H. Lee		
France, 85	Union L. Co.		
" 195	L. J. Levinstein & Sons		
Belgium, 100			
Canada, 200	A. J. Humphery		
Belgium, 50	Leach & Co.		
Germany, 10	J. Barber & Co.		
Denmark, 2	J. Sinclair & Son		
Indigo			
E. Indies, 17 cts.	Parsons & Keith		
" 7	R. Von Glehn & Sons		
Japan, 15	L. & I. D. Jt. Co.		
E. Indies, 88			
" 11	Elkan & Co.		
Holland, 5	Richardson, Spence & Co.		
" 38	Ross & Deering		
" 20	Elkan & Co.		
E. Indies, 20	Ross & Deering		
" 11	Arbuthnot, Latnam & Co.		
" 7	F. W. Heilgers & Co.		
" 13	W. J. Eales & Co.		
Madder			
N. Russia, 10 pks.	Ross & Deering		
Myrabolams			
E. Indies, 1,317 pks.	Baxter & Hoare		
" 667 pks.	L. & I. D. Jt. Co.		
" 1,334	J. Greig		
" 276	Dalton & Young		
" 2,732	J. Allen & Co.		
" 8,366	W. Shelcott		
Orchella			
E. Indies, 7 pks.	L. & I. D. Jt. Co.		
Shumac			
Italy, 70 pks.	Yeneken & Co.		
" 500	J. Kitchin, Ltd.		
" 100	H. Johnson & Sons		
Tanner's Bark			
Natal, 106 t.	A. & W. Nesbitt		
" 104	Boucher, Mortimore & Co.		
" 23	W. France & Co.		
France, 1	Union L. Co.		
Natal, 108	Flack, Chandler & Co.		
N. Zealand, 6 c.	Beresford & Co.		
Germany, 9 t.	Leach & Co.		
Turmeric			
Cochin, 100 pks.	Wallace Bros.		
E. Indies, 111	Beresford & Co.		
" 195	J. Graves		
" 55	Lucas & Spencer's		
" 653 cts.	Wf. Ld.		
" 653 cts.	L. & I. D. Jt. Co.		
Dyestuffs (otherwise undescribed)			
E. Indies, 40 cts.	J. P. Alpe & Co.		
Farina—			
Holland, 100 pks.	Seaward Bros.		
" 30	J. Barber & Co.		
French Chalk—			
Italy, 1115	W. Harrison & Co.		
Glucose—			
U. States, 250 pks.	1,375 c. Deering & Robottom		
" 50	285 c. A. E. Piggott		
" 20	110 Ohlenschlager Bros.		
" 20	112 Finlay & Co.		
" 50	287 J. T. Morton		
" 50	300 C. Southwell & Co.		
" 60	330 L. Sutro & Co.		
France, 100	100 L. Norman & Co., Ltd.		
U. States, 375	450 Fellows, Morton & Co.		
" 150	825 Union L. Co., Ltd.		
" 200	200 Beck & Pollitzer		
" 510	500 Humphery & Co.		
" 725	4,055 R. G. Hall & Co.		
Germany, 200	200 Ohlenschlager Bros.		
Glue—			
" 4760			
Infusorial Earth—			
Holland, 46	T. H. Lee		
Lead Acetate—			
Germany, 28 pks.	Beresford & Co.		
Lime Sulphate—			
Germany, 30 pks.	Anderson, Weber, & Smith		
Magnesium Carbonate—			
Holland, 20 pks.	Beresford & Co.		
Manure—			
U. States, 18 t.	L. & I. D. Jt. Co.		
E. Indies, 51	Fox, Roy, & Co.		
Algeria, 1,100	J. Gibbs & Co.		
Germany, 50	Perkins & Homer		
Sydney, 100	A. Hunter & Co.		
Peru, 1,481	Anglo-Contl. G. Wks.		
Methyl Alcohol—			
Belgium, 20 dms.	Lister & Biggs		
Mica—			
E. Indies, 4755	W. M. Smith & Sons		
Molasses—			
U. States, 2,000 cks.	11,890 c. J. R. Francis & Co.		
B.W.J., 206	2,060 c. Gillespie Bros.		
Belgium, 850	1,700 J. Barber & Co.		
B.W.I., 129	1,032 Middleton & Wf. Co.		
Ochre—			
Holland, 26 pks.	Phillips & Graves		
" 326 bgs.	T. & W. Farmiloe		
France, 25 bgs.	Prop. Hay's Wf.		
" 396 cks.	W. Harrison & Co.		
Paraffin Wax—			
U. States, 652 bbs.	Anglo-American Oil Co.		
" 181	G. H. Frank		
Rangoon, 816 cs.	H. Hill & Sons		
U. States, 166 pks.	"		
Pitch—			
U. States, 8 bbs.	Abbey, Abbey, & Co.		
N. Russia, 550 cks.	Fellows, Morton, & Co.		
Plumbago—			
Germany, 23 cks.	B. Gallaway		
U. States, 1	Beck & Pollitzer		
Germany, 42	T. H. Lee		
" 27	H. J. Enthoven & Sons		
Ceylon, 70 bbs.	Donlon & Co.		
" 22	R. G. Hall & Co.		
" 15	Marshall & French		
" 157 cks.	J. Thredder, Son, & Co.		
Potash—			
Canada, 50 bbs.	J. Barber & Co.		
" 62 c.	Charles & Fox		
Potassium Bicarbonate—			
Holland, 27 c.	A. & M. Zimmermann		
Potassium Carbonate—			
Germany, 22 cks.	H. Lambert		
France, 38 c.	Spies Bros. & Co.		
Holland, 20	"		
Potassium Cyanide—			
Cape, 1 pks.	Morison, Pollexfen, & Co.		
Quicksilver—			
Spain, 11 bts.	Jacob Walter & Co.		
Rosin—			
U. States, 200 bbs.	C. Tennant, Sons, & Co.		
" 250	R. Cook & Co.		
" 1,000	Prod. Brokers' Co.		
" 800	Dick & Parker		
" 666	H. Hill & Sons		
Saltpetre—			
Germany, 40 cks.	J. Hall & Son		
" 120	P. Hecker & Co.		
E. Indies, 139 bgs.	Lucas & Spencer's Wf. Co.		
Silica—			
Belgium, 431	W. Harrison & Co.		
Soda—			
Holland, 20 c.	J. Barber & Co.		
Soda Ash—			
Holland, 2,000 c.	R. Waters		
Sodium Acetate—			
France, 5 pks.	Johnson & Hooper		
Sodium Hyposulphite—			
Germany, 116 pks.	F. Boehm		
Holland, 200	Beresford & Co.		
Sodium Sulphide—			
Holland, 28 pks.	H. Lorenz		
Starch—			
Belgium, 40 pks.	H. Johnson & Sons		
Germany, 1,780	Horne & Co.		
U. States, 150	Beck & Pollitzer		
Belgium, 84	Leach & Co.		
" 200	Sawer, Sons, & Co.		
Germany, 480	C. Tennant, Sons, & Co.		
Holland, 20	J. Barber & Co.		
" 210	Phillips & Graves		
Germany, 70			
Belgium, 380	Prop. Scott's Wf.		
France, 110	Beck & Pollitzer		
Belgium, 284	T. H. Lee		
Holland, 1,388	Little & Johnston		
" 40	G. Rahn & Co.		
Stearine—			
Belgium, 10 cks.	H. Hill & Sons		
France, 100 bgs.	T. Trapp & Sons		
" 21	Walbaum & Tosetti		
" 120	"		
Sulphur—			
Italy, 20 t.	F. Smith		
" 29	Co-op. Lighters Association		
" 45	R. Morrison & Co.		
" 15	J. Greig		
" 163	G. Boor & Co.		
" 10	H. S. Smith & Co.		
" 15	J. Puddy & Co.		
" 31	J. Kitchin, Ltd.		
" 5	C. Tennant, Sons, & Co.		
" 10	Parbury & Co.		
" 20	Hyslop & Symonds		
Talc—			
France, 440	G. G. Blackwall, Sons, & Co.		
Tartaric Acid—			
Holland, 37 pks.	Beresford & Co.		
" 4	Kirkpatrick & Co.		
" 47	B. & F. Wf. Co.		
Turpentine—			
Savannah, 620 c.	H. Funch		
Ultramarine—			
Belgium, 5 bbs.	W. Harrison & Co.		
Holland, 43 pks.	Thames S. T. & L. Co., Ltd.		
Belgium, 12 bbs.	Leach & Co.		
Holland, 5 cks.	G. Rahn & Co.		
" 1	Phillips & Graves		
Germany, 6	H. Lambert		
" 15	Steinhoff, Sons, & Co.		
Varnish—			
U. States, 63 pks.	Allan Bros. & Co.		
" 15	Beck & Pollitzer		
White Lead—			
Germany, 28 cks.	Randall Bros.		
Belgium, 10 bbs.	J. L. Lyon & Co.		
Germany, 23 cks.	Colthurst & Harding		
" 16	"		
Belgium, 45	"		
Germany, 14	W. A. Rose & Co.		
" 22	S. H. Willoughby		
" 24	Spies Bros. & Co.		
" 16 pks.	Petri Bros.		
Wood Pulp—			
Germany, 98 pks.	L. & I. D. Jt. Co.		
" 509	E. J. & W. Goldsmith		
Norway, 68	Union L. Co.		
" 16	L. Knoblauch		
Germany, 70	Tough & Henderson		
Holland, 702	Phillips & Graves		
Belgium, 1,035	F. Clayton & Co.		
Canada, 13,149	E. J. & W. Goldsmith		
Sweden, 3,027 pks.	Henderson, Craig, & Co.		
Zinc Oxide—			
Holland, 125 bbs.	M. Ashby, Ltd.		
" 50	Colthurst & Harding		
" 50 pks.	Prpes. Dewgate		
Germany, 388	Soundy & Sons		
Holland, 50	J. Mazon		

LIVERPOOL.

Week ending June 27th.

Acetate of Lime—
New York, 692 bgs.Acetic Acid—
Rotterdam, 3 bbs.Asbestos—
Montreal, 1 bg. G. Gillespie & Co.

tes—
erdam, 45 cks.
verp, 19 200 bgs.
Ash—
pana, 337 bgs.
Meal—
utta, 2,239 bgs.
on Black—
on, 30 brls. G. Warren & Co.
or Oil—
utta, 1,000 cs. Ralli Brs.
ic Soda—
les, 1 dm.
icals (otherwise undescribed)
adelphia, 18 cks. W. Blythe & Co.
rs—
36
erp.
erdam, 4 cks.
euzen, 10 4 brls. J. T. Fletcher & Co.
eras—
burg, 32 cks. H. Tyrer & Co.
nseed Oil—
reans, 1,000 brls
uffs—
gols
to, 23 cks. German Bk. of London
vi Divi
Hacha, 511 bgs.
170 t. E. Brownbill & Co.
tracts
eaux, 100 cks.
n, 220 Co-op. W'sale Society, Ltd.
delphia, 250 bxs. 50 brls.
euzen, 50
stic
igena, 812 ps. Leech, Harrison & Co.
rabolams
atta, 200 bgs.
mac
eaux, 50 bls.
mo, 100 bgs. J. Glynn & Son
108 801
lonia
na, 2,440 knls. Barry Brs.
945 G. Essayan & Co.
937
a—
burg, 2,250 bgs. H. Tyrer & Co.
e, 200
se—
York, 549 brls.
n, 1,000 F. W. Simmond & Co.
200
n, 13 cks. 30 cs. Co-op. W'sale Society, Ltd.
ardam, 8
azaire, 30
c Acid—
n, 12 kgs. E. Hickson
Black—
n, 10 brls. G. Warren & Co.
re—
delphia, 167 bgs.
delphia, 2 bxs.
in Scale—
York, 909 brls. Standard Oil Co.
in Wax—
York, 10 cs. Jardine Matheson
hate Rock—
oyal, 1,250 t.
irk, 54 cks. Wilson, Son & Co.
h—
n, 42 cks. Co-op. W'sale Society, Ltd.
irk, 43 dms. Martin, Perls & Co.
real, 15 brls. Makin & Bancroft
ium Carbonate—
burg, 36 cks.

Pyrites—
Huelva, 3,584 t. Matheson & Co.
Rosin—
New York, 400 brls.
Salammoniac—
Philadelphia, 12 cks.
Salt—
Madeira, 30 bgs.
Saltpetre—
Calcutta, 287 bgs. Ralli Brs.
Soap—
New York, 948 bxs.
Forcados, 6 brls.
B. Ayres, 118 1 bg. E. Cosdogle
Alexandria, 1
Philadelphia, 62
Boston, 5 cs. J. Thompson
Sodium Nitrate—
Junin, 17,444 bgs.
Starch—
Antwerp, 147 cs. J. T. Fletcher & Co.
Rotterdam, 171
Stearine—
New York, 35 tcs. Co-op. W'sale Society, Ltd.
Antwerp, 50 hds.
Rotterdam, 3 bgs.
26 bls.
Tallow—
Boston, 35 tcs.
Rouen, 138 bgs. Co-op. W'sale Society, Ltd.
B. Ayres, 192 pps.
Campana, 341 cks.
Philadelphia, 455 270 brls. Theo. Marc & Co.
Tar—
New York, 10 brls.
Rotterdam, 1 ck.
Tartar—
Bordeaux, 7 cks.
Tartaric Acid—
Rotterdam, 25 cks.
Treacle—
Bordeaux, 1 cs.
Philadelphia, 100 brls. Richardson, Spence & Co.
908
Ultramarine—
Rotterdam, 2 cks.
Varnish—
New York, 10 c.
Philadelphia, 21 bxs. G. W. Sharp
Rotterdam, 1 ck.
Terneuzen, 1 J. T. Fletcher & Co.
Waste Salt—
Hamburg, 100 t. H. Tyrer & Co.
100 bgs.
White Lead—
Rotterdam, 80 cks.
Antwerp, 12
Wood Pulp—
Sannesund, 3,648 bls. H. Tyrer & Co.
Rotterdam, 103 bdls.
Zinc Ashes—
Rouen, 19 cks. Co-op. W'sale Society, Ltd.
Zinc Oxide—
Antwerp, 35 brls.

MANCHESTER.

Week ending June 29th.

Acetate of Lime—
New York, 1,760 sks.
Alumina Sulphate—
Rotterdam, 12 cks.
Anthracene—
Rotterdam, 64 cks.
Arachide Oil—
Rotterdam, 10 cks.
Barytes—
Antwerp, 50 bgs.
Bone Ash—
Rio Grande do Sul, 179 t.
Ville Colon, 450 J. Gordon & Co.
Paysandu, 570
Chemicals (otherwise undescribed)
Rouen, 25 cks.

Colours—
Rotterdam, 55 cks. 37 es. 15
18 bxs.
Hamburg, 3 2 bkts.
Antwerp, 10
Cream of Tartar—
Rotterdam, 4 cs.
Dextrine—
Stettin, 200 bgs.
Dyestuffs—
Alizarine
Rotterdam, 29 cks. 1 cs.
Extracts
Rotterdam, 15 cks.
Treport, 35 2 cs. Arnati & Harrison
Farina—
Stettin, 100 bgs.
Glucose—
New York, 450 brls. T. M. Duchie & Sons
Glue—
Treport, 10 cks. 20 bgs. Arnati & Harrison
Hamburg, 10 bskts.
Rouen, 41 25 bls. 1 bg.
Limestone—
Antwerp, 3 cs.
Ochre—
Treport, 41 cks. Arnati & Harrison
Potash—
Antwerp, 5 brls. 10 dms.
Potassium Chlorate—
Stockholm, 50 kgs.
Salt—
Hamburg, qty.
Sodium Acetate—
Treport, 7 cks. Arnati & Harrison
Rouen, 8
Sodium Chlorate—
Rouen, 9 cks.
Sodium Phosphate—
Rotterdam, 15 cks.
Starch—
Rotterdam, 80 cs.
New York, 1,200 bgs.
Ghent, 20
Stettin, 300
Tar Oil—
Antwerp, 26 cks.
Tartar—
Nantes, 5 cks. J. & P. Hutchinson
Tartar Emetic—
Hamburg, 2 cks.
Tartaric Acid—
Rotterdam, 16 cks. 20 kgs.
Nantes, 14 J. & P. Hutchison
Tin Perchloride—
Antwerp, 2 cks.
Ultramarine—
Hamburg, 4 cs.
Varnish—
Ghent, 1 ck.
Wood Pulp—
Rotterdam, 51 bls.
Repola, 400 cb. fthms. Kellner, Partington P.P. Co., Ltd.
Lokkula, 93 cb. fthms. Kellner, Partington P.P. Co., Ltd.
Gothenburg, 300 bls.
Stockholm, 50 bgs. 975 pks. Manchester S. Canal Co.
Sandswall, 5,400 bls. Manchester S. Canal Co.

HULL.

Week ending June 29th.

Acetate of Lime—
New York, 1,613 bgs. Wilson, Sons, & Co., Ltd.
Acid—
Rotterdam, 4 cks. Hutchinson & Son
Albumen—
St. Petersburg, 30 cs. Bailey & Leatham
Asbestos—
Rotterdam, 2 cs. Hutchinson & Son
Genoa, 7 Wilson, Sons, & Co., Ltd.

Barytes—
Antwerp, 40 cks. 100 bgs. H. F. Pudsey
Rotterdam, 52 W. & C. L. Ringrose
Bremen, 21 Veltmann & Co.
Rotterdam, 19
22 Hutchinson & Son
10 bgs. Wilson, Sons, & Co., Ltd.
Bone Meal—
Bombay, 1,057 bgs.
Castor Oil—
Leghorn, 40 cs. Wilson, Sons, & Co., Ltd.
Chemicals (otherwise undescribed)
Stettin, 3 cks. Wilson, Sons, & Co., Ltd.
Bremen, 4 pks. Veltmann & Co.
Naples, 20 cks. Wilson, Sons, & Co., Ltd.
Danzig, 24
Hamburg, 15 cs. 24 17 pks. Wilson, Sons, & Co., Ltd.
Antwerp, 78 pks. "
Cod Oil—
Drontheim, 5 brls. Wilson, Sons, & Co., Ltd.
Christiania, 12 "
Bergen, 27 "
Hamburg, 25 "
Aalesund, 325 "
Colours—
Hamburg, 5 cs. G. Malcolm & Son
Ghent, 8 brls. Wilson, Sons, & Co., Ltd.
Antwerp, 1 ck. Bailey & Leatham
Stettin, 8 cks. Wilson, Sons, & Co., Ltd.
Rotterdam, 4 71 pks. 11 cs. W. & C. L. Ringrose
Bremen, 2 cs. J. Pyefinch & Co.
Rotterdam, 2 cks.
Danzig, 3
Rotterdam, 7 pks. Wilson, Sons, & Co., Ltd.
" 45 69 brls. 3 cks. Hutchinson & Son
27 cs.
Dyestuffs—
Alizarine
Rotterdam, 26 brls. Hutchinson & Son
" 4 cks. 27 pks. W. & C. L. Ringrose
Cochineal
Hamburg, 5 bgs. Wilson, Sons, & Co., Ltd.
Madders
Rotterdam, 5 cks. Hutchinson & Son
Myrabolams
Bombay, 958 bgs.
Farina—
Hamburg, 500 bgs. Wilson, Sons, & Co., Ltd.
Ghent, 94 cs. "
Stettin, 400 bgs. "
Hamburg, 1 cs. C. Ritzinger
Harlingen, 80 bgs.
Hamburg, 100 W. & C. L. Ringrose
" 100 Sparkuhl & Steinle
Glucose—
New York, 250 brls.
Rotterdam, 40 bgs. Hutchinson & Son
Hamburg, 2 cks.
Stettin, 300 bgs. Wilson, Sons, & Co., Ltd.
Glue—
Rouen, 5 cs. 36 cks. 22 bls. Rawson & Robinson
Manure—
Rotterdam, 7 dms. Penny & Co.
Molasses—
Boston, 100 brls. Wilson, & Co., Ltd.
Ochre—
Rouen, 66 cks. Rawson & Robinson
" 78
Marseilles, 56
Paint—
Boston, 13 cs. Wilson, Sons, & Co., Ltd.
New York, 20 "

Pitch — Rotterdam, 38 cks. Hutchinson & Son Pumice Stone — Leghorn, 20 bls. 30 cs. Wilson, Sons & Co., Ltd. " 100 bgs. Rosin — Bordeaux, 8 cks. Saltpetre — Hamburg, 1 ck. Soap — Naples, 8 cs. Wilson, Sons & Co., Ltd. Soda — Rotterdam, 50 cks. Hutchinson & Son Antwerp, 6 dms. Hailey & Leatham Sodium — Rotterdam, 1 ck. Hutchinson & Son Sodium Acetate — Rouen, 6 cks. Rawson & Robinson Starch — Antwerp, 48 cs. Bailey & Leatham " 60 W. Gilyott & Co. Amsterdam, 40 bks. Bremen, 2,069 cs. Veltmann & Co. Antwerp, 130 Wilson, Sons & Co., Ltd. Stearine — Antwerp, 66 bgs. 343 pks. Wilson, Sons & Co., Ltd. Tar — Nykarleby, 324 brls. 22 hf.-brls. Marseilles, 5 cks. Tartar — Bordeaux, 12 cks. Rawson & Robinson Tartaric Acid — Rotterdam, 2 cks. W. & C. L. Ringrose Treacle — New York, 350 brls. Wilson, Sons & Co., Ltd. Ultramarine — Rotterdam, 2 cks. Hutchinson & Son Bremen, 28 Rotterdam, 1 W. & C. L. Ringrose Varnish — New York, 20 brls. Wilson, Sons & Co., Ltd. Waste Salt — Hamburg, 115 bgs. White Lead — Antwerp, 22 cks. Bailey & Leatham Rotterdam, 24 Hutchinson & Son " 88 W. & C. L. Ringrose Wood Pulp — Abo, 51 bls. J. Good & Sons " 8 Furley & Co. " 31 Hamburg, 80 Bailey & Leatham	Zinc Oxide — Rotterdam, 25 cks. Hutchinson & Son Hamburg, 5 Bailey & Leatham Antwerp, 25 " GLASGOW. <i>Week ending July 4th.</i> Alum — Rotterdam, 15 cks. J. Rankine & Son Aniline — Rotterdam, 4 cks. 3 bxs. 5 brls. J. Rankine & Son Arachide Oil — Rotterdam, 2 cks. J. Rankine & Son Barium Sulphate — Antwerp, 258 pkgs. Barytes — Rotterdam, 3 cks. 56 pkgs. J. Rankine & Son Castor Oil — Vizagapatam, 249 cs. W. H. Alexander & Co. Antwerp, 224 cks. Armour & Co. " 115 Copper Sulphate — Rouen, 2 cks. Cottonseed Oil — New York, 200 brls. Dyestuffs — Alizarine Rotterdam, 74 pkgs. Argols Bordeaux, 11 cks. Extracts Nantes, 25 cks. Rouen, 20 Madder Rotterdam, 4 cks. J. Rankine & Son Valonia Marathonisi, 190 t. Martin & Miller Farina — Danzig, 100 bgs. Delfsryl, 50 Hamburg, 100 Glucose — Boston, 997 brls. New York, 260 Glue — Hamburg, 4 cks. 20 bgs. Rouen, 20 14 bls. Antwerp, 6 Kelp — Aalesund, 584 bgs. H. C. Fairlie & Co. Lamp Black — Gothenburg, 10 cks. 5 cs. Lead Acetate — Hamburg, 21 cks. Lime — Antwerp, 40 bgs. Manganese Chloride — Rotterdam, 5 cks. J. Rankine & Son	Paint — New York, 3 brls. 1 bx. Painters' Colours — Antwerp, 5 cks. Rotterdam, 6 pkgs. Phosphates — Antwerp, 516 bgs. Pitch — Bordeaux, 3 bgs. Potash — Rotterdam, 47 cks. J. Rankine & Son Rosin — New York, 250 brls. Saltpetre — Hamburg, 46 cks. Soap — Nantes, 10 cks. Sodium Nitrate — Taltal, 2,050 t. Thomson, Aikman & Co. Starch — Antwerp, 410 cs. New York, 500 sks. Rotterdam, 148 cs. 3 bgs. J. Rankine & Son Tallow — New York, 10 tcs. Tannic Acid — Hamburg, 1 bg. Tar — New York, 100 brls. Tartar — Bordeaux, 24 cks. Treacle — Rotterdam, 8 cks. J. Rankine & Son Boston, 600 brls. Waste Salt — Hamburg, 577 bgs. 475 cks. White Lead — Rotterdam, 78 cks. J. Rankine & Son Antwerp, 1 Wood Pulp — Gothenburg, 240 bls. Dronheim, 80 Zinc Oxide — New York, 100 brls. Antwerp, 25 cks. Zinc Sulphate — Antwerp, 1 ck. Zinc White — Rotterdam, 155 cks. J. Rankine & Son TYNE. <i>Week ending June 29th.</i> Alum — Rotterdam, 100 bgs. Tyne S. S. Co. Alum Earth — Hamburg, 90 cks. Tyne S. S. Co. Barytes — Antwerp, 200 bgs. Tyne S. S. Co. Cod Oil — Bergen, 10 brls. Trondhjem, 10	Colours — Rotterdam, 1 bx. 1 brl. Tyne S. S. Co. Farina — Hamburg, 20 bgs. Tyne S. S. Co. Glue — Hamburg, 4 cks. Tyne S. S. Co. Kieselguhr — Bergen, 216 bgs. Limestone — Antwerp, 4 cts. Tyne S. S. Co. Paint — Hamburg, 8 dms. 15 tins. Tyne S. S. Co. Pyrites — Huelva, 1,086 t. Scott Bros. Saltpetre — Hamburg, 3 cks. Tyne S. S. Co. Soap — Rotterdam, 4 cs. Tyne S. S. Co. Starch — Rotterdam, 178 cs. Tyne S. S. Co. Tartaric Acid — Rotterdam, 8 cks. Tyne S. S. Co. Ultramarine — Hamburg, 4 cks. Tyne S. S. Co. Wood Pulp — Laurvig, 120 bls. Skien, 120 GOOLE. <i>Week ending June 26th.</i> Alkali — Calais, 3 cks. Aniline — Ghent, 6 kgs. 1 cs. Antimony — Boulogne, 2 cks. Dyestuffs — Alizarine Rotterdam, 41 brls. Logwood Jamaica, 550 t. Belize, 490 Dyestuffs (otherwise undescribed) Rotterdam, 179 cks. 25 cs. Boulogne, 38 5 38 pkgs. Phosphate — Ghent, 800 bgs. Potash — Calais, 17 dms. Waste Salt — Hamburg, 606 cks. Zinc Ashes — Hamburg, 8 cks. GRIMSBY. <i>Week ending June 29th.</i> Caoutchouc — Hamburg, 11 pkgs. Antwerp, 2 cs. Chemicals (otherwise undescribed) Hamburg, 14 cs. 100 bgs. Coal Tar Dyes — Antwerp, 10 cks. 7 pkgs.
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EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.	Anhydrous Ammonia—	Citric Acid—	Naphtha
<i>Week ending July 3rd.</i>	Demerara, 2 cs. £19	Delagoa Bay, 3 kgs. £19	Boulogne, 50 brls. £19
Alkali —	Arsenic —	Libau, 1 c. 7	Naphthaline
Algoa Bay, 6 c. £6	Wellington, 2 t. £31	Antwerp, 5 31	Treport, 50 bgs. £31
Ammonia —	Melbourne, 1 16	Kurrachee, 1 cs. 10	Pitch
Bombay, 3 cs. £11	Carbonic Acid Gas —	Sydney, 2 cks. 62	New York, 602 bgs. 300 cks. £11
Ammonia (Liquid) —	Port Biera, 3 cs. £15	Hamburg, 42 257	Alexandria, 1,200 t. £11
Hamburg, 3 t. 5 c. £37	Caustic Soda —	Melbourne, 20 120	Antwerp, 100 100
Hio, 5 dms. 12	Brisbane, 5 t. 7 c. £40	Coal Products —	Dunkirk, 100 100
Ammonium Carbonate —	Leveika, 10 10	Aniline Dyes	Boston, 3,944 394
B. Ayres, 1 t. £35	Natal, 2 4 55	Anthracene	Baltimore, 500 500
Paris, 4 5 c. £35	Algoa Bay, 11 15	Dusseldorf, 106 cks. £1,300	Tar
Ammonium Chloride —	Melbourne, 2 15 86	Benzol	Gothenburg, 55 miles. £40
Rotterdam, 17 cks. £105	Chemicals (otherwise undes.) —	Hamburg, 50 cks. £110	Gibraltar, 12 cks. 12
Ammonium Sulphate —	Calcutta, 6 cs. £55	Terneuzen, 20 dms. £35	Algoa Bay, 250 dms. 25
Ghent, 10 t. £165	Chloride of Lime —	Carbolic Acid	Natal, 600 20 20
	E. London, 30 cs. £24	Rotterdam, 49 cks. £105	Toluol
		Hio, 150 360	Boulogne, 62 cks. £20

Products (otherwise unites.)—
Sulphate—

aux, 5 l. 3 c.	£80
rdam, 1	850
ane, 1	15
rdam, 5	75
n, 44	620
Bay, 3 c.	£13
abe, 3 t. 5	233
ourne, 3	7
256	
ectants—	
abo, 6 c.	£16
rt, 3 drs.	11
st, 200	60
son, 80 pkgs.	37
ica, 7	11
burg, 6 c.	10
York, 3 cs.	25 cks. 125
o, 5 carboys	13
ourne, 10 t. 8	180
itta, 4	25
own, 2	2
16	33
adoes, 50 t.	£419
ix, 159	1,590
ada, 5	55

phosphite of Lime—
Sulphate—

delphia, 1 t.	£363
own, 1 t.	£25
re—	
39 t. 18 c.	£337
51	3
150	
o Acid—	
15 carboys	£20
h Crystals—	
2 cs.	£40
3	84
h Salts—	
land, 7 t.	£1,050

alum Bichromate—
alum Cyanide—

ghai, 5 cs.	£53
alum Prussiate—	
rdam, 4 cks.	£76

etre—
castle, 3 t.

10 c.	12
1	5
le Janeiro, 3	17
1	6
ourne, 2	15
2	5
aide, 2	43
to, 2	4
48	
o Dip—	
land (Is.), 50 dms.	£64
Elizabeth, 2 t. 14 c.	99 drs 171
1	170
ideo, 3	12
110	
yres, 33	13
1,300 cs. 4,592	
a Bay, 300 dms.	2
75	

a Bay, 4½ c.
Crystals—

ay, 38 t. 3 c.	£63
ourne, 11	19
nantle, 3	13
araise, 19	9
40	
am Bicarbonate—	
utta, 1 t.	£8
um Bichromate—	
enburgh, 1 t. 13 c.	£55
um Sulphate—	
fa, 21 t. 7 c.	£40

hur—
mantle, 20 bris. 20 kgs.

16 t.	£18
Bay, 4	9 c.
bourne, 5	46
uric Acid—	
apore, 1 t. 10 c.	£15
eriffe, 1	12
ang, 4	2
35	
phosphate—	
5	96 t. 2
£264	
Kitts, 5	58

phosphate of Lime—
adoc, 100 t.

£300	
aric Acid—	
Bay, 4 c.	£22
ington, 5	25
mantle, 3	16
apore, 3	20
church, 2 t.	190
Biera, 2	13

LIVERPOOL.
Week ending July 3rd.

Albumen—
New York, 4 t. 16 c.

£275	
Alum—	
Vera Cruz, 3 t. 15	4 c. 3 q. £2
Galatz, 1	9
Mersyne, 1	10
Tripoli, 1	10
Alexandretta, 3	7
Lisbon, 5	4
Bahia, 1	10
San Francisco, 20	14
2	93
Toronto, 3	13
20	

Ammonia (Liquid)—
Ammonium Carbonate—

Cadiz, 1 t. 3 c.	£37
Ammonium Chloride—	
Vera Cruz, 1 t. 16 c.	£63
Smyrna, 1	4
Norrkoping, 1	4
Malta, 1	4
Bombay, 1	10
10	12
Hiogo, 2	4
Syria, 3	1 q. 9
Patras, 1	4
Piræus, 1	4
Antwerp, 1	2
Vera Cruz, 4	2
Galatz, 14	26
Marseilles, 14	24
Valparaiso, 2	48

Ammonium Sulphate—
Gd. Canary, 1 t.

£11	
Las Palmas, 20	17 c. 241
Sourabaya, 129	15
1,438	
St. Petersburg, 40	15
388	
Carthage, Sp., 16	2
3 q. 173	
Philadelphia, 44	13
401	
Genoa, 30	2
3	208
Tagal, 55	13
2	534
Valencia, 100	6
2	1,051

Antimony—
Bilbao, 1 ck.

Gijon, 2 c.	£23
Arsenic—	
Montreal, 1 t. 11 c.	
Asbestos—	
Calcutta, 10 bgs.	
Honolulu, 20	

Bleaching Powder—
Alexandria, 20 kgs.

30 cs.	
Bombay, 622 cks.	56 bris.
27	
B. Ayres, 64	2
Genoa, 16	16
Havana, 16	10
Leghorn, 50	10
Naples, 104	185 cs.
Calcutta, 6	7 bris.
Corunna, 6	155
Rio de Janeiro, 30	
San Sebastian, 21	
Seville, 21	
Vera Cruz, 155	

Bone Waste—
Rouen, 2 t.

£14	
Boric Acid—	
Melbourne, 2 t.	£64
Borax—	
Barcelona, 4 t. 18 c.	2 q. £98
Montreal, 10	186
Hamburg, 1	4
Stettin, 5	4
Gijon, 4	15
Rotterdam, 8	7
M. Video, 2	11
1	1
2	22

Calcium—
Odessa, 15 t. 3 c.

£36	
Calcium Chloride—	
Gijon, 5 c.	£1
Caoutchouc—	
Philadelphia, 5 bgs.	
Carbolic Acid—	
Hamburg, 5 t. 9 c.	£266
Odessa, 100 dms.	88
Newport News, 6	29
312	
Genoa, 9	3 q. 26
Bombay, 10	66
New York, 4	6
2	252
Hong Kong, 1	8
1	17

Castor Oil—
Honolulu, 100 dms.

£46	
Caustic Potash—	
Newport News, 1 t. 10 c.	
Caustic Soda—	
Adelaide, 90 dms.	

Alexandria, 10
Algoa Bay, 13 bxs.

Aracaju, 10	
Baltimore, 259	
Barcelona, 150	42 cks.
Bombay, 52	600 bgs.
Boston, 111 tcs.	417
Calcutta, 173	
Carrii, 40	
Catania, 28	
Corunna, 15	30 bris.
Fume, 153	
Galatz, 386	
Genoa, 35	
Havre, 60	
Hong Kong, 50	
La Libertad, 144	
Lisbon, 144	
Madras, 12	
Malaga, 87	
Melbourne, 75	
Messina, 250	
Mexico City, 22	
Naples, 180	
Newport News, 28	
Palermo, 17	
Passages, 2	
Penang, 50	
Perth, 51	
Pt. Elizabeth, 45	
Rio de Janeiro, 40	
Rosario, 10	
San Francisco, 10	
Shanghai, 75	
Sourabaya, 240	
Tampico, 20 cks.	
Tarragona, 15	
Trieste, 135	
Valparaiso, 17	
Varna, 100	
Venice, 50	
Bourgas, 140	12 cs.
Callao, 3	
Colon, 5	5 bris.
Hamburg, 354	
Hiogo, 223	
M. Video, 170	
Montreal, 300	
New York, 75	
Oporto, 30	
Rouen, 30	
Samarang, 5	
San Sebastian, 102	
Seville, 90	
Valencia, 78	

Chemicals (otherwise undescr.)
Gd. Bassa, 4 cs.

£11	
Constantinople, 2 t. 10 c.	92
Volo, 5	9
B. Ayres, 5	7
Calcutta, 410 bgs.	155
Philadelphia, 13 t.	430
Bombay, 4	10 c. 167
Genoa, 2	69

China Clay—
Bombay, 1 bx. 350 cks.

Boston, 1,447 t.	
B. Ayres, 40	40
Calcutta, 35	9 c.
Lisbon, 100	
Montreal, 10	
Odessa, 20	
Naples, 200	
Philadelphia, 200	

Chloroform—
Bombay, 1 cs.

Antwerp, 6 c.	£19
Chromic Acid—	
Vera Cruz, 3 c.	£29
Chromium Acetate—	
Vera Cruz, 2 c. 1 q.	£12

Coal Products—
Alizarine Oil

Oporto, 1 brl.	
Aniline Colours	
Bombay, 2 cs.	
Aniline Oil	
Barcelona, 26 cks.	
Boston, 10 dms.	
Aniline Salts	
Boston, 100 cs.	
New York, 14 cks.	
Anthracene	
Rotterdam, 23 cks.	
Cresote Oil	
Bordeaux, 260 bris.	
Naphthaline Colours	
New York, 3 cks.	
Pitch	
Dunkirk, 501 t.	
St. Malo, 621	
Volo, 15 bris.	

Tar
Philadelphia, 550 bris.

Honolulu, 50	
Tar Salts	
New York, 1 t. 12 c.	£51

Copperas—
Pernambuco, 19 c.

San Francisco, 61 t.	1
107	
Mersyne, 1	7
Tripoli, 1	7
Galatz, 4	10
Santos, 4	16
2 q. 11	
Alexandretta, 6	4
11	
Sydney, 6	1
92	

Copper Sulphate—
Nantes, 77 t. 12 c.

£1,037	
Delagoa Bay, 1	15
Brisbane, 1	15
Odessa, 28	10
3 q. 436	
Ibrail, 6	10
Tarragona, 1	10
1	23
Ghent, 7	12
111	
Rotterdam, 5	2
3	80
N. Orleans, 2	19
1	47
Amsterdam, 5	1
78	
Calcutta, 5	1
83	
Singapore, 20	1
2	311
Tampico, 20	3
313	
Boston, 19	19
2	301
Leghorn, 5	1
78	
Havre, 2	18
1	36
Reuen, 25	2
1	390
Stettin, 1	19
30	
Alexandretta, 1	13
11	
Galatz, 3	10
60	
Venice, 39	18
3	625
Genoa, 40	6
607	
Naples, 11	18
189	
Boca, 9	1
1	115
Cadiz, 2	2
29	
Newfairwater, 2	6
1	35
Bordeaux, 257	13
2	3,571

Disinfectants—
Calcutta, 2 t. 17 c. 1 q.

£44	
Kurrachee, 32 cks. 25 dms.	83
Farina	
Pernambuco, 10 sks.	
Gelatine—	
Boston, 375 bxs.	
Las Palmas, 400	4 bls.
New York, 75	
Philadelphia, 75	

Glue—
Corunna, 10 bgs.

E. London, 2 cks.	
St. John's, N.H., 1	
Barcelona, 18	
La Libertad, 5	50
New York, 50	
Guano—	
Tarragona, 10 t.	£86
Seville, 4	18 c. 34
Gypsum—	
New York, 37 t. 17 c.	£112

Iron Oxide—
Guayaquil, 17 t. 12 c. 3 q.

£56	
Montreal, 1	7
Lamp Black—	
M. Video, 10 cks.	
Lime	
Lagos, 3 t. 15 c.	£6
Pernambuco, 15	10
15	
Iquitos, 8	10
18	
Mossamedes, 30	14
3 q. 29	

Magnesia—
Vera Cruz, 9 cs.

£13	
Magnesium Chloride—	
Paris, 5 t. 3 c.	
Magnesium Sulphate—	
Colombo, 8 cks.	
Oporto, 17 bris.	

Manure—
Honolulu, 65 t.

£786	
Las Palmas, 5	52
Teneriffe, 5	4 c. 2 q. 40
Ochre—	
Callao, 8 cks.	
Oxalic Acid—	
San Francisco, 2 t.	1 q. £67
Paint—	
B. Ayres, 5 cks.	72 dms.
Chienfuegos, 10 cs.	28
Fiume, 3	200 kgs.
Galatz, 3	8
Guantanamo, 1	
Havana, 7	
Hong Kong, 16	900
Honolulu, 114	
Malta, 114	

Old Calabar,	10	
Para,	56	
Penang,	2	
Pt. Natal,	2	
Puerto Cabello,	3	
Rotterdam,	5 brls.	
San Francisco,	85	
San Juan,	5	
Sierra Leone,	70 dms.	
Valparaiso,	83	
Vera Cruz, 4 cs.	30	
Adelaide,	21	
Bakana, 5 drs.	18	
Beyrout,	2	
Bremerhaven,	12	
Cadix,	150	
Calcutta,	120	
Colon,	30	
Coquimbo,	8	
Degama, 1 bx.	1	
Guayaquil, 11 cs.	6	
Hamburg,	30	
Las Palmas,	70	
Manila,	50	
Mossamedes, 2 cs. 3	95	
Nagasaki,	50	
Nassau,	18	
New York,	180	
Pernambuco,	8	
Savannah,	3	
Tampico,	3	
Painters' Colours—		
Alexandria,	30 cks.	
Antwerp,	24	
Bahia,	3	
Baltimore,	102	
Bombay,	53	
Bremen,	100	
Calcutta,	3	
Callao,	4 cs.	
Cartagena, N.G.,	48	
E. London, 9 cs.	60	
Galata,	100	
Gothenburg,	50	
Leghorn, 1 bx. 16	2	
Manaos,	5 brls.	
Marseilles,	100 bgs.	
Melbourne,	5	
Montreal,	70	
Naples,	15	
N. Orleans,	200	
Paris,	20	
Progresso, 3 cs.	100	
San Juan,	3	
Seville,	11	
Valleyfield,	6	
Valparaiso, 34 cs.	60	
Venice, 1 bx.	47	
Akassa,	2	
Boston,	20	
Honolulu,	20	
Ibrail,	14	
Kingston, Ja.,	100	
Lisbon,	7	
New York,	22	
Oporto,	1	
Padang,	100	
Pernambuco,	37	
Philadelphia,	200	
Rotterdam,	10	
Savannah, 6 cs.		
Paraffin Wax—		
Trieste,	10 bgs.	
Oporto,	2	
Santander,	10	
Phosphoric Acid—		
Pernambuco,	1 c.	
Penang,	5 t.	
Phosphorus—		
B. Ayres,	6 c.	
Havana,	10	
Shanghai,	1 t.	
Yokohama,	10	
Hiogo,	1	
Plumbago—		
Valparaiso,	23 cks.	
Potash—		
Bombay,	11 c.	
Potassium Bichromate—		
B. Ayres,	19 c.	
Syria,	13	
Alexandria,	1 t.	
Seville,	6	
Potassium Chlorate—		
Bilbao,	5 t.	
Alexandria,	6 c.	
Sydney,	8	
Kalmar,	1	
Malmö,	1	
Naples,	4	
Calcutta,	10	
Gothenburg,	6	
Rotterdam,	5	
Riga,	1	
Shanghai,	4	

Hiogo,	12	
Yokohama,	12	
Potassium Prussiate—		
Naples,	5 c.	
Cadix,	1 t.	
Salt—		
Accra,	6 t.	
Amsterdam,	64	
Antwerp,	495	
Bombay,	10	
Bonny,	800	
Boston,	41	
B. Ayres,	23	
Calcutta,	150	
Ghent,	5	
Iquitos,	75	
Kingston, Jam.,	75	
Melbourne,	150	
N. Orleans,	130	
Old Calabar,	800 pkgs.	
Pernambuco,	18	
Rio de Janeiro,	200	
Rotterdam,	272	
San Francisco,	630	
Seattle,	50	
Sherbro,	149	
Barbadoes,	15	
Benin,	15	
C. C. Castle,	25	
Halifax,	635	
Lagos,	100	
Montreal,	1,382	
N. Castle, NSW.,	100	
Quebec,	962	
Rangoon,	4,265	
Reykjavik,	90	
Sapeli,	31	
Trinidad,	39	
Salt Cake—		
Philadelphia,	70 t.	
Saltpetre—		
Syria,	2 t.	
Almeria,	1	
Para,	1	
Pernambuco,	7	
Vera Cruz,	3	
Sheep Dip—		
Baltimore,	11 cks.	
B. Ayres,	10 dms.	
Punta Arenas,	2 t.	
Soap—		
Accra,	40 bxs.	
Amsterdam,	415	
Antwerp,	40	
Barbadoes,	400	
Benin,	250	
Bombay,	860	
Boston,	50	
Brass,	50	
Calcutta,	3	
C. C. Castle,	30	
E. London,	1	
Forcados,	1	
Hong Kong,	3	
Jersey,	20	
Kingston, Ja.,	3,635	
Lagos,	93	
Lanzarote,	20	
Leghorn,	10	
Madras,	4	
Manaos,	1,000	
Menada,	1,000	
N. Orleans,	72	
Pernambuco,	150	
Pt. Natal,	400	
Sapeli,	1,000	
Shanghai,	3,538	
Singapore,	28	
Valparaiso,	450	
Warri,	100	
Bermuda,	50	
Casa Blanca,	80	
Colombo,	9	
Genoa,	200	
Gibraltar,	20	
Grenada,	150	
Hamburg,	1	
Las Palmas,	1,791	
Manila,	1	
Pt. Elizabeth,	150	
Rotterdam,	233	
Tangiers,	144	
Soda Alkali—		
Alicante,	32 cks.	
Barcelona,	4	
Bilbao,	50 brls.	
E. London,	5 cs.	
Melbourne,	79	
Newcastle,	38	
Salonica,	35	
Toronto,	35	
Valencia,	50	

Soda Ash—		
Adelaide,	34 cks.	
Amsterdam,	21	
Baltimore, 54 tcs.	22	
Barcelona,	89	
Bombay,	10	
Boston,	66	
B. Ayres,	377	
Gijon,	2	
Gothenburg,	9	
Hamburg,	300	
Hiogo,	376	
Ibrail,	9	
La Libertad,	50 brls.	
Montreal,	15	
New York,	10	
Oporto,	10	
Piræus,	50 brls.	
Rio de Janeiro,	30	
Rosario,	200	
Rotterdam,	500	
Samarang,	12	
San Sebastian,	20	
Shanghai,	8	
Yokohama,	200	
Antwerp,	200	
Callao,	50	
Copenhagen,	70	
M. Video,	125	
Newport News,	200	
Philadelphia,	186 tcs.	
Portland, Or.,	57	
San Francisco,	424	
Soda Crystals—		
Boston,	280 brls.	
B. Ayres,	148 kgs.	
Gijon,	18	
Hiogo,	10	
Montreal,	125	
New York,	415 cks.	
Philadelphia,	700	
Valparaiso,	125	
Calcutta,	28	
Maceio,	20	
Malta,	50	
Sodium Biarseniate—		
Naples,	2 cks.	
Sodium Bicarbonate—		
Adelaide,	50 kgs.	
Alexandria,	206 cks.	
Algiers,	25	
Algoa Bay,	30	
Bilbao,	50	
Bombay,	13	
Boston,	35	
B. Ayres,	70	
Calcutta,	6	
Cape Town,	20	
Constantinople,	30 brls.	
Dedeagatch,	10	
Galata,	160	
Hamburg,	6	
Hiogo,	300	
Hong Kong,	10	
Kurrachee,	250	
Malta,	10 bgs.	
Montreal,	20	
Naples,	5	
N. Orleans,	40	
New York,	160	
Paris,	120	
Philadelphia,	60	
Piræus,	5	
Pt. Elizabeth,	10	
Rosario,	19	
Rotterdam,	1	
Trieste,	2	
Valencia,	20	
Valparaiso,	100	
Varna,	30	
Christiania,	30	
Copenhagen,	40	
Danzig,	32	
Dunkirk,	27	
Genoa,	59	
Marseilles,	50	
M. Video,	1 cs.	
Newport News,	470	
Rouen,	925	
St. John's, N.B.,	100	
Stockholm,	13	
Sodium Bichromate—		
Genoa,	16 cks.	
Sodium Chlorate—		
Boston,	100 kgs.	
St. Petersburg,	25	
Sodium Hyposulphite—		
Calcutta,	40 kgs.	
Sodium Silicate—		
Havre,	10 brls.	
Ibrail,	7	
Piræus,	5	
Sfax,	5	

Sodium Sulphate—		
Maceio,	28 brls.	
Sodium Superphosphate—		
Valencia,	542 bgs.	
Starch—		
Colombo,	3 cs.	
Sulphur—		
Newfairwater,	60 t.	
Montreal,	95	
B. Ayres,	6	
Boston,	300	
Para,	5	
Pernambuco,	1	
Callao,	4	
Superphosphate—		
Gd. Canary,	10 c.	
Valencia,	55 t.	
Las Palmas,	28	
Tannic Acid—		
Pernambuco,	1 c.	
Tartaric Acid—		
Sydney,	10 c.	
Vera Cruz,	6	
Tin Crystals—		
New York,	1 t.	
Treacle—		
Accra,	10 cs.	
Amsterdam,	25 brls.	
Christiania,	25	
Gothenburg,	20	
Hamburg,	10	
Havre,	37	
Rotterdam,	35	
Stockholm,	25	
Antwerp,	40	
Ghent,	20	
Terneuzen,	8	
Turpentine—		
M. Video,	20 dms.	
Mossamedes,	25	
Madras,	50	
Old Calabar,	5	
Alexandria,	10 brls.	
Bakana,	5 drs.	
Varnish—		
Paris,	1 brl.	
Penang,	6 dms.	
Santander,	5 cks.	
Seville,	6	
Boston,	3	
Valparaiso,	3	
White Lead—		
Pt. Natal,	15 kgs.	
Whiting—		
Liqueur,	30 brls.	
Zinc Chloride—		
Boston,	2 t.	
Bombay,	7	
MANCHESTER		
<i>Week ending July 4th.</i>		
Ammonium Carbonate—		
Hamburg,	4 kgs.	
Antwerp,	20	
Aniline Colours—		
Hamburg,	1 cs.	
Rotterdam,	1	
Aniline Oil—		
Antwerp,	10 dms.	
Rotterdam,	1	
Anthracene—		
Rotterdam,	118 cks.	
Antimony—		
St. Petersburg,	10 cks.	
Bleaching Powder—		
Rio de Janeiro,	4 cs.	
Carbolic Acid—		
Rotterdam,	25 cks.	
Barcelona,	25 bds.	
Trepost,	16	
Caustic Soda—		
Rio de Janeiro,	8 dms.	
Creosote—		
Rotterdam,	30 cks.	
Glue—		
Rotterdam,	10 cks.	
Paraffin Wax—		
Barcelona,	60 bgs.	
Pitch—		
Antwerp,	192 t.	
Soap—		
Malta,	6 bxs.	
Soda Alkali—		
Rio de Janeiro,	1 c.	

Ash—
singfors, 104 cks.
um Bicarbonate—
singfors, 20 kgs.
hur—
port, 2 cs.
Oil—
terdam, 20 dms.
nburg, 3
port, 25 cks.
Salts—
werp, 14 cks.
d Spirit—
nburg, 4 dms.

HULL.

Week ending June 29th.
li—
nia, 35 cks. 35 dms.
u, 32
ste, 60 kgs.
onium Sulphate—
in, 100 bgs.
kirk, 485
ching Powder—
zig, 12 cks.
ne, 140
u, 6 bls.
Petersburg, 4
tic Soda—
u, 120 dms.
icals (otherwise undescribed)
1 ck.
verp, 58 cs.
bay, 171 530 pks.
en, 1 2
nbgan, 63 2 63
stania, 2 5
tantinople, 150 100 pkgs.
kirk, 13
tig, 100 pks.
enburgh, 2 8
burg, 6 166
ingen, 20
gberg, 2 5
alchee, 450
u, 10
sa, 112 50
terdam, 28 40
in, 12
etersburg, 14
e, 10
seed Oil—
erp, 100 c.
nbgan, 200
them, 34
e, 80
enburgh, 250
burg, 1,601
rdam, 439
n, 63
uffs (otherwise undescribed)
3 cs.
tania, 42 bgs.
n, 182 10 cks.
stersburg, 5 10
ed Oil—
erp, 20 c.
burg, 303
ichee, 80
rdam, 352
nger, 137
e, 143
ay, 230
n, 38
tania, 891
heim, 236
re—
erp, 1 t.
al White—
ay, 100 bgs.
ha—
erp, 6 cks.
Oxide—
erp, 2 cs.
rs' Colours—
rdam, 25 cks. 2 pks.
erp, 21
ay, 80 cs. 750 pkgs.
n, 1 70
hagen, 31
iansund, 25 dms.
rk, 3
heim, 50
e, 29
aburg, 86

Hamburg, 3
Harlingen, 2
Konigsberg, 5
Rouen, 15
Rotterdam, 2 1 cs.
Riga, 50 1
Stavanger, 1
St. Petersburg, 83
Trieste, 2
Christiania, 15 1 96 pks.
Pitch—
Dunkirk, 58 t. 2 cks. 4 stamps
Odessa, 100
Soap—
Hango, 6 cs.
Spent Oxide—
Danzig, 225 t.
Starch—
Copenhagen, 75 cs.
Tallow—
Amsterdam, 8 cks.
Bombay, 33
Gothenburg, 7
Rotterdam, 21
Tar—
Bergen, 1 bl.
Copenhagen, 6 cks.
Danzig, 5
Hamburg, 25
Rotterdam, 4
Treacle—
Bergen, 40 cks.
Turpentine—
Bombay, 60 cks.
Varnish—
Amsterdam, 1 cs.
Antwerp, 1
Copenhagen, 1 2 cks.

GLASGOW.

Week ending July 4th.

Acid—
Bombay, £38
Ammonia—
Bombay, £41
Ammonium Sulphate—
Calcutta, 2 t. 5 c.
Bleaching Powder—
Baltimore, £745
Boracic Acid—
Yokohama, 3½ t.
Castor Oil—
Adelaide, £45
Santos, 66
Caustic Soda—
B. Ayres, £64
Coal Products—
Aniline Oil
Lisbon, £33
Creosote Oil
Russia, £24
Naphtha
Bordeaux, £60
Paris, 184
Pitch
Canada, £191
Russia, 60
Amsterdam, 200 t.
Bombay, 22
U.S.A., 544
Tar
Riga, 1 t. 10 c.
Russia, £270
St. Vincent, £19
Turkey, 148
Danzig, 450 brls.
Rotterdam, 19
Karachi, 44
Rangoon, 104
Cod Oil—
Auckland, £42
Dyestuffs—
Extracts
Victoria, Aust., £92
Lisbon, 3 t. 18½ c.
Logwood
Lisbon, 2 t. 3 c.
Glue—
Rangoon, 15 c.
Iodine—
Rotterdam, £250
Lead Acetate—
Calcutta, 5 t.
Linseed Oil—
Alexandria, 17½ c.
Cairo, 2 t. 14
Canada, 12 17½
Melbourne, 2 10
Bombay, 1 5

Litharge—
Bombay, £30
Magnesium Sulphate—
Adelaide, £12, 108.
Christiania, 10 t.
Paint—
Alexandria, £91
Cairo, 234
Canada, 55
Melbourne, 12
Singapore, 61
Bombay, 164
Calcutta, 70
Rangoon, 45
Painters' Colours—
Hong Kong, £24
Melbourne, 10
Singapore, 34
Bombay, 170
Calcutta, 59
Rangoon, 198
Paraffin Wax—
Auckland, £396
Bordeaux, 135
Riga, 1 t. 3 c.
Russia, 1,422
Turkey, 23
Yokohama, 2½
Amsterdam, 11
Christiania, 4
Lisbon, 11½
Potassium Bichromate—
Gothenburg, £70
Higo, 5 t. 10¼ c.
Bombay, 131
Rouen, 622
Potassium Prussiate—
Lyons, £343
Sheep Dip—
Bluff Harbour, N.Z., £45
Auckland, 70
Soap—
Cairo, 1 t. 14 c.
Bombay, 6 2
Sodium Arseniate—
Lisbon, 1 t. 14 c.
Sodium Bichromate—
Antwerp, £165
Bombay, 61
Calcutta, 105
Rouen, 530
Starch—
Lisbon, 1 t. 9¼ c.
Sulphuric Acid—
Rangoon, £303
Tallow—
Rotterdam, 6 t. 13 c.
U.S.A., 7 11
Treacle—
Christiania, 9 t. 12¼ c.
Varnish—
Cairo, £97
Huelva, 4 c.
White Lead—
Canterbury, £130
Melbourne, 615

TYNE.

Week ending June 29th.

Alkali—
Milan, 10 t. 3 c.
Rotterdam, 1 12
Ammonium Sulphate—
Valencia, 127 t.
Kristineham, 280
Arsenic—
Genoa, 10 c.
Venice, 5 t. 4
Barytes—
Hamburg, 5 t.
Blanc Fixe—
Copenhagen, 4 t. 11 c.
Bleaching Powder—
Antwerp, 88 t. 18 c.
Hamburg, 23 13
Lisbon, 4 19
Genoa, 9 18
Venice, 5 2
Florence, 2 19
Harlingen, 25 2
Copenhagen, 17 8
Trondhjem, 10 3
Gothenburg, 20 4
Christiania, 16 3
Rotterdam, 27 13
Bone Ash—
Spezia, 5 t. 10 c.

Calcined Magnesia—
Genoa, 3 c.
Turin, 2
Caustic Soda—
Hamburg, 76 t. 10 c.
Lisbon, 4 18
Genoa, 10
Mira, 10 3
Rotterdam, 8 18
Copenhagen, 2 18
Antwerp, 8 2
Aarhus, 1 2
Creosote—
Aalborg, 13 c.
Litharge—
Gothenburg, 1 t. 8 c.
Magnesia—
Hamburg, 1 t. 5 c.
Genoa, 5
Antwerp, 2
Paint—
Antwerp, 2 t. 8 c.
Copenhagen, 11
Gothenburg, 15
Phosphorus—
Valencia, 2 t. 17 c.
Rosin Oil—
Rotterdam, 1 t. 1 c.
Soda—
Aarhus, 9 t. 18 c.
Svendborg, 5
Rotterdam, 19 17
Esbjerg, 50 1
Gothenburg, 11 9
Stockholm, 35 12
Christiania, 5
Soda Ash—
Gothenburg, 118 t. 15 c.
Kallero, 60 8
Hamburg, 2
Venice, 25 10
Christiania, 13
Sodium Hyposulphite—
Genoa, 3 t.
Sodium Sulphate—
Genoa, 10 t. 17 c.
Venice, 2 18
Kallero, 450
Gothenburg, 230
Sulphur—
Gothenburg, 80
Christiania, 50
Treacle—
Bergen, 4 t. 8 c.
White Lead—
Hamburg, 2 t. 3 c.
Lisbon, 18
Copenhagen, 4 11
Gothenburg, 2 13
Stockholm, 1 5

GOOLE.

Week ending June 26th.

Benzoil—
Hamburg, 48 cks.
Rotterdam, 97
Chemicals (otherwise undes.)—
Antwerp, 2 cks.
Hamburg, 1
Boulogne, 2
Coal Products (otherwise undes.)—
Boulogne, 26 cks. 2 cs.
Ghent, 5 1
Rotterdam, 121
Dyestuffs (otherwise undescribed)
Boulogne, 2 cks.
Hamburg, 120
Logwood—
Wolgast, 363 t.
Manure—
Hamburg, 257 bgs.
Pitch—
Antwerp, 770 t.

GRIMSBY.

Week ending June 29th.

Caoutchouc—
Helsingborg, 5 cks.
Chemicals (otherwise undescribed)
Antwerp, 18 cks.
Dieppe, 2
Hamburg, 1 10 cs. 8 bls.
Coal Products (otherwise undes.)—
Dieppe, 202 cks.
Hamburg, 1
Rotterdam, 11

PRICES CURRENT.

WEDNESDAY, JULY 10TH, 1895.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	9/3
Glacial		40/-	
Arsenic S.G., 2000°	per lb.	0	15 0
Fluoric	per lb.	0	0 3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
(Cylinder), 30° Tw.		0	3 0
Nitric 80° Tw.	per lb.	0	0 1 1/2
Nitrous		0	0 1 1/4
Oxalic	nett	0	0 3 1/4
Phosphoric, 1750°		0	1 1
Picric		0	0 10
Sulphuric (fuming 50 %	per ton	15	10 0
(monohydrate)		5	10 0
(Pyrites, 168°)		3	0 0
(free from arsenic, 145°)		1	5 0
Sulphurous (solution) S.G. 1025		3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric		0	0 10 3/4
Arsenic, white powdered	nett per ton	15	5 0
Alum (loose lump)		4	12 6
Alumina Sulphate (pure)		4	12 6
Aluminoferrous		2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous		0	1 3
" 880=28° B.	per lb.	0	0 3
" =24° B.		0	0 2 1/4
Carbonate	nett	0	0 3 1/4
Muriate	per ton	21	10 0
(sal-ammoniac) 1st & 2nd	per cwt.	39/-	37/-
Nitrate	per ton	40	0 0
Phosphate	per lb.	0	0 8 1/4
Sulphate (grey) London	per ton	9	15 0
(grey) Hull		9	10 0
Aniline Oil (pure)	per lb.	0	0 5 1/4
Aniline Salt		0	0 4 1/4
Antimony	per ton	32	0 0
(tartar emetic)	per lb.	0	0 7
(golden sulphide)		0	0 10
Barium Chloride	per ton	6	7 0
Carbonate (native)		3	5 0
Sulphate (native levigated)		45/-	to 75/-
Bleaching Powder, 35 %	nett	7	0 0
Liquor, 7 %		3	10 0
Bisulphide of Carbon		13	0 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk		15/-	to 30/-

Coal Tar Products and Dyes:—

Alizarine (artificial) 20 %	nett per lb.	0	0 8
Magenta		0	3 9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	1 0 1/2
Benzol, 90 % nominal	per gallon	0	1 0
50/90		0	0 11 1/2
Carbolic Acid (crystallised 40°)	per lb.	0	0 6 1/2
(crude 60°)	per gallon	0	1 8
Creosote (ordinary)		0	0 1 1/2
(filtered for Lucigen light)		0	0 2
Crude Naphtha 30 % @ 120° C.		0	0 5 1/2
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston		1	13 0
Solvent Naphtha, 90 % at 160°	per gallon	0	1 1
Lucigen and Wells Oils		0	0 2 1/2
Copper	per ton	43	7 6
Sulphate		15	10 0
Oxide (copper scales)		41	10 0
Glycerine (crude)		16	10 0
(distilled S.G. 1250°)		42	10 0
Iodine	nett, per oz.	0	0 9
Iron Sulphate (copperas)	per ton	1	5 0
Sulphide (antimony slag)		2	0 0
Lead (sheet) for cash		11	12 6
Litharge Flake (ex ship)		13	5 0
Acetate (white)		24	0 0
(brown)		14	10 0
Carbonate (white lead) pure		16	0 0
Nitrate		18	15 0

Lime, Acetate (brown)	per ton	5	12 6
(grey)		8	5 0
Magnesium (ribbon and wire)	per oz.	0	2 3
Chloride (ex ship)	per ton	2	7 6
Carbonate	per cwt.	1	17 6
Hydrate	per ton	17	0 0
Sulphate (Epsom Salts)	per ton	3	0 0
Manganese, Sulphate		17	0 0
Borate	per cwt.	2	15 0
Ore, 70 %	per ton	4	5 0
Methylated Spirit, 61° O.P.	per gallon	0	1 10
Naphtha (Wood), Solvent		0	3 0
Miscible, 60° O.P.		0	2 11

Oils:—			
Cotton-seed	per ton	18	10 0
Linseed		23	0 0
Petroleum, American	per gallon	0	0 6 1/4
Stearine	per ton	25	0 0
Phosphorus (yellow)	per lb.	0	2 2
(red)		0	2 8
Potassium (metal)	per oz.	0	3 7
Bichromate	nett per lb.	0	0 4 1/4
Carbonate, 90% (ex ship)	per ton	16	15 0
Chlorate	per lb.	0	0 4 1/4
Cyanide, 98%		0	1 6
Hydrate (Caustic Potash) 80/85 %	per ton	21	5 0
(Caustic Potash) 75/80 %		19	15 0
(Caustic Potash) 70/75 %		19	10 0
Nitrate (refined)	per cwt.	1	1 6
Permanganate	per cwt.	2	17 6
Prussiate Yellow	per lb.	0	0 7 1/4
Sulphate, 90 % (ex ship)	per ton	9	15 0
Muriate, 80 % (do.)		8	10 0
Silver (metal)	per oz.	0	2 6 1/4
Nitrate		0	2 0
Sodium (metal)	per lb.	0	2 11
Carb. (refined Soda-ash) 48 %	nett per ton	4	15 0
(Caustic Soda-ash) 48 %		3	17 6
(Carb. Soda-ash) 48%		3	15 0
(Alkali) 58 %		3	7 6
(Soda Crystals)		2	2 6
Acetate (ex-ship)		14	0 0
Arseniate, 45 %		11	0 0
Chlorate	per lb.	0	0 6 1/4
Borate (Borax)	net, per ton	18	10 0
Bichromate	per lb.	0	0 3 1/4
Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton		9	7 6
(74 % Caustic Soda)		8	7 6
(70 % Caustic Soda)		7	10 0
(60 % Caustic Soda)		6	10 0
(60 % Caustic Soda, cream) (f.o.b.)		6	7 6
Bicarbonate		6	10 0
Hypsulphite		5	10 0
Manganate, 30%		16	0 0
Nitrate (95 %) ex-ship Liverpool	per cwt.	0	8 0
Nitrite, 98 %	per ton	29	0 0
Phosphate		14	10 0
Silicate (glass)	per ton	4	10 0
(liquid, 100° Tw.)		3	10 0
Stannate, 40 %	per cwt.	3	2 9
Sulphate (Salt-cake)	per ton	0	17 6
(Glauber's Salts)		1	5 0
Sulphide		8	0 0
Sulphite		5	5 0
Strontium Hydrate, 100%		8	10 0
Sulphocyanide Ammonium, 95 %	per lb.	0	0 6 1/4
Barium, 95 %		0	0 4 1/4
Potassium		0	0 7
Sulphur (Flowers)	per ton	5	15 0
(Roll Brimstone)		5	0 0
Brimstone: Best Quality		3	12 6
Superphosphate of Lime (26%)		2	7 6
Tallow		23	10 0
Tin Crystals	per lb.	0	0 5 1/4
English Ingots	per ton	67	10 0
Zinc (Spelter)		14	15 0
Chloride (solution, 100° Tw.)		5	7 6

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ADVERTISEMENTS.

UNIVERSITY COLLEGE, BRISTOL.

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Lecturer ARTHUR RICHARDSON, Ph.D.

SESSION 1895-96 begins on October 3rd.
Lectures on Inorganic, Organic, and Advanced Chemistry will be delivered
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t, Gainsboro'.

Advertisements.

Advertisements of Situations Vacant, Premises on Sale or To be Let
and various Wants, and Specific Articles for Sale by Private Contract are
inserted in the *Chemical Trade Journal* at the following rates:—

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Each additional 10 words 6s. 6d. "

Advertisements, Announcements in the Directory Columns, and all Adver-
tisements not prepaid, are charged at the Tariff rates, which will be forwarded on
application.

Advertisements intended for insertion in the current week's issue
must reach the office by Thursday morning at the latest.

CURRENT TOPICS.

THE OUTCOME OF IGNORANCE OR DESIGN?

MOST people on this side who know anything about the
solid paraffin combine are fully aware that the said com-
bine is *un fait accompli*. However, an American contemporary
which is understood to hold a high position as an authority
on the doings of the oil and kindred trades, having for a long
time expressed doubts as to whether the combine would be
carried to a successful issue, has now in a recent issue gone
so far as to assure its readers that there is no combine, and
that the rumours that have been circulated are "authorita-
tively denied by the American producers."

After giving a few particulars as to the why and where-
fore, the same *authority* again states that "Reports are
constantly being circulated to the effect that an under-
standing has been arrived at, but which, upon investigation,
prove to be incorrect."

Now there may have been, and doubtless are yet differences
of opinion as to the wisdom of any such arrangement, still
nevertheless it is only too well known that an arrangement
has not only been arrived at, but has been working with more
or less success for some time. The "investigations" of our
contemporary therefore appear to have been of a very
superficial character. To judge from the way the bargain
was concluded the S.O. Co. seems to have been quite as eager
as the Scotch producers.

To complete the comedy of errors, our contemporary,
after dwelling upon the vicissitudes the Scotch makers have
to contend with, explains the strong position of the American
producers, and their consequent indifference to a combine, by
instancings the superior quality of their wax.

There are hundreds of thousands of tons of American wax
imported into this country yearly, so that we should know
something of the quality of the wax from this source,
and if our contemporary's statement is reliable, all we
can say is, that they reserve their high-class wax for other
countries, thus distributing their favours very unequally.

The quality of their candles is also referred to, it being
stated that "the Scotch dealers oppose the improvement in
the standard of semi-refined wax and the candles made
therefrom." In a way, this is partially true, *i.e.*, as far as
regards the quality of the candles. But the very statement
of this fact shows that those who publish it broadcast are
quite ignorant of the conditions which cause the Scotch
makers to assume the attitude they do. Did they know them
the Americans would be the last to make such a statement,
since by giving currency to the excerpt quoted above a slur
is indirectly but inevitably cast upon the quality of American
wax. We prefer to say no more, for the simple reason that
we should be giving our "cute cousins" such an insight into
the internal workings of some of our combinations at home

as they would be only too glad to obtain, and evidently stand in much need of if they are to purvey the latest reliable news to the American section of the trade.

GOLD PRODUCTION IN THE RAND.

The returns of the gold production in the Rand district seem to know no turning. Month after month an advance has been recorded until the excitement appears to centre, not so much in what the increase will amount to as to how long this constant state of progression will last, before settling to something like a constant figure.

This month the total is over two hundred thousand ounces, the actual figures being 200,941 ounces. The increase, as compared with last month, is satisfactory, while beside the figures of June, 1894, there is an advance of 32,779 ounces.

The rate of progress in the Rand Goldfield is undoubtedly phenomenal, since it is not an every day occurrence for the production of a mining district—especially gold mining—to double itself in three years, yet this is a fact which the returns unmistakably show. Time works wonders, and you never know what is in store; but so far things look promising for the fulfilment of our forecast of a few months back.

SMOKE PROSECUTIONS.

Week after week we see a list of prosecutions for the emission of black smoke, in which as a rule at least one or two names well known in the industrial world figure. The fines are not very excessive, it is true, but this constant resort to police-court proceedings cannot be very satisfactory to manufacturers. In fact, this peculiar channel through which justice, if such it be, is dispensed in hebdomadal doses is not unnaturally very odious to them. There was a report to be issued a short time back by a Manchester association much interested in the suppression of smoke, which said report was to show most conclusively that smoke producers had not a leg left to stand on. We have been looking with some interest for a copy of this report, which may enable some further understanding to be arrived at in regard to the treatment of offenders, but so far we have not been favoured with a copy of the *ultimatum*. Meantime these prosecutions keep constantly recurring, apparently without any consideration as to the nature of the trade carried on by the offenders. We sincerely hope that the efforts of six months ago made to obtain a common-sense recognition of the position of certain industries in regard to this matter, are not going to swell the volume of the much-blamed, murky, gaseous emissions by likewise ending in "smoke."

MEMORIAL TO PROFESSOR HUXLEY.—Sir Joseph Fayrer presided on Tuesday at a meeting in connection with the Huxley Memorial which it is proposed to establish at Charing Cross Hospital Medical School. It was decided that the memorial should take the form of a Huxley scholarship and medal, to be awarded annually, and, if funds permitted, an annual public lecture dealing with recent advances in science and their bearing upon medicine.

A PETROLEUM MOTOR CARRIAGE.—The Hon. Evelyn Ellis performed on Friday last what is said to be the first journey on a petroleum motor carriage in this country. The carriage, known as the Daimler, is one built by Messrs. Panhard and Levassor, of Paris, and the patent rights for the United Kingdom and the colonies are held by the Daimler Motor Syndicate, Limited, 49, Leadenhall-street, London. It consists of a neat and compact four-wheeled dog cart, with accommodation for four persons and two portmanteaus. It can travel at a speed of from 15 to 20 miles an hour, though the average is fixed, rather, at from 8 to 12, and the cost of the petroleum consumed is about one halfpenny an hour. There is said to be no smoke, heat, or smell, while the carriage runs quite smoothly and without any oscillation. Steering apparatus is provided, and the brake power allows of a stoppage within a distance of about a yard. The journey performed by Mr. Ellis on Friday was from Hampshire to Datchet, the distance of 56 miles being covered in five hours and a half. Mr. Ellis was accompanied by Mr. Frederick R. Simms, the managing director of the syndicate.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Improvements in Manufacture of Starch. O. Beusterien. 12,624. July 1.
Improvements in Electrolytical Apparatus. R. Heathfield and W. Rawson. 12,651. July 1.
Separating Metals from Substances containing Zinc Oxide. J. A. M. 12,668. July 1.
Extracting Cyanides from Blast Furnace Dust and other Crude Solids. R. Addie. 12,729. July 2.
Making Phosphate of Lime Fertilizers. D. T. Day. 12,769. July 2.
Treating Sewage and Impure Potable Water. W. Ackroyd. 12,773. July 3.
Acidulating Wools to be Carbonized. G. Philips. 12,857. July 3.
Manufacture of Chloride of Lead. The Chloride Electrical Storage Syndicate, Ltd., and J. G. A. Rhodin. 12,954. July 4.
Improvements in Electrolytic Cells. S. Z. De Ferranti. 12,990. July 4.
Treating Cottonseed and other Oils. F. B. Aspinall and The Electric Refining Co., Ltd. 13,107. July 6.

ABSTRACTS OF LATEST COMPLETE SPECIFICATION

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

Manufacture of Alkaline Cyanides and Ferro-cyanides. Dr. G. Kraus. 7, Flottwell Strasse, Berlin. Eng. Pat. 16,529. August 30, 1894.

Carbazol or anthracene residues resulting from the enrichment of crude anthracene with benzol, etc., are utilised for the preparation of cyanides and ferro-cyanides by treating with potash or soda, mixture being heated to 260° C to 280° C for potash, and 320° C to 340° C for soda. The resulting potassium or sodium carbazolate is heated to a bright red heat with potash or carbonate of soda, an necessary with iron powder. The mass obtained is lixiviated, treated in the usual manner for the production of potassium cyanide, yellow prussiate of potash. As potassium carbazolate is to be preferred for the production of cyanide compounds, the following affords a typical example:—200 kilos. of anthracene residues, containing about 10% carbazol, are heated with 30 kilos. of commercial caustic potash to 280° C in a vessel fitted with an agitator. In about three hours water produced by the re-action is distilled off, and the melt standing a short while is run into moulds, in which the potassium carbazolate readily separates, leaving a layer of solid anthracene hydrocarbons. The crude potassium carbazolate so obtained is broken up, heated in a suitable vessel to a bright red, when it is converted into potassium cyanide, carbon separating, and small quantities of carbon ammonia, and combustible gases escaping. A better yield is obtained if certain quantities of potash or carbonate of soda are added to melt before heating. By this means it is claimed that 50% of nitrogen of the carbazol is converted into cyanogen.

Improvements in the Manufacture of Antiseptic Agents. J. Y. Johnson. 47, Lincoln's Inn Fields, London (Dr. F. Von Heyden Nachfolger). Eng. Pat. 15,351. Aug. 11, 1894.

The use as disinfectants of substituted phenols obtained by placing one or more of the hydrogen atoms in phenol with a meta-halogen, or nitro group, has hitherto been impossible owing to the poisonous nature, caustic action, etc. These objections the patent proposes to overcome by treating the substituted phenol with phosphorus so as to form a carbonic acid compound. Methods are described for the preparation of these compounds, and also for fixing the hypochloric acid produced by the reaction between the phosgene and substituted phenol salt. It is claimed that the resulting antiseptics are non-poisonous, colourless, crystalline substances, exercising no caustic action, and are practically free from any odour and taste. They are insoluble in water, but soluble in alcohol and ether, having melting points ranging from 56° C to 197° C.

Improvements in and connected with the Manufacture of Alkaline Carbonates. W. Von Baranoff, 26, Rue des Batignolles, Paris. Eng. Pat. 9,555. May 14, 1895.

This patent deals with the preparation of alkaline carbonates acting on an alkaline sulphate with an alkaline sulphide; thus barium or strontium sulphide, prepared by heating the sulphate with carbon, is caused to react with sulphate of soda, forming sodium sulphide and barium sulphate, which is recovered, and again enters into the process. The sulphide of sodium so formed is in turn treated with carbon dioxide with the formation of bicarbonate of soda and sulphuretted hydrogen.

is used for the manufacture of sulphuric acid, or in any other way. The re-actions set forth are well known, but up to the do not seem to have been employed commercially by reason in defects. The patentee claims to obviate these in several

In the first instance he prepares barium sulphide by adding to phate only the theoretical amount of carbon required to effect position, instead of an excess, as has been the custom hitherto. way he claims to obtain a sulphide containing only a very slight of undecomposed sulphate.

n, in the solution of the barium sulphide in water, oxidation of phide generally takes place rapidly, so that in the decomposition sulphate of soda with the barium sulphide, the alkaline sulphide ed contains hyposulphite and other objectionable sulphur com-. To obviate this, solid sulphide of barium in a powdered on is caused to react on a solution of sulphate of soda in water, g contact with air as far as possible. The mixture thus obtained ed at once, without filtering, with carbon dioxide. In this way imed that a nearly pure carbonate of soda is obtained.

of Manufacturing Alkaline Bichromates. M. W. Beylikgy, Tena-New Jersey, U.S.A. Eng. Pat. 9,558. May 14, 1895.

patent proposes to make alkaline bichromates by forming a chromate of lime and the alkali to be chromated. To this end ground mixture of chrome iron ore, lime, and an oxygenated ind of the alkali metal, is formed into bricks and roasted in a lent furnace, to which air can be freely admitted. In roasting, perature is first carried to about 1,000°C and kept at that till tral chromate is wholly formed, and the mass then further carried ight orange heat, at which it is maintained until the end of the n. The latter point is indicated by the mass assuming a reddish colour and agglutinating, or an approximate test such as digesting rge excess of strong hydrochloric acid and noting that no blackish remains. The working proportions are not specified, but the ng are the general principles:—For each molecule of sesqui- f chromium, 2 atoms of the alkaline metal are added, and enough carbonate or hydrate to form a neutral silicate of lime with the cid which enters the mixture from the chrome ore and alkaline addition an extra equivalent of lime is allowed, to form the desired chromate in conjunction with the sesqui-oxide and alkali. r quantities of lime have also to be added if, for instance, sulf potash or soda is used, which will form a stable compound ne at a high temperature. Lastly, the patentee in any case to add not less than an additional 5% in excess of the calculated y of lime to ensure perfect reactions and facilitate the subsequent ion.

is said lixiviation the double chromate of lime and alkali, being soluble, is easily separated. The solution so obtained can be

for the recovery of bichromate by any known process. The e, however, prefers to pass the solution of double chromate a a filter of asbestos, or cotton waste, &c., thoroughly nated with commercial oleic acid. The lime is retained as a ous soap, leaving the alkaline bichromate free to pass on into iting pans, where it is concentrated and crystallized out. The after washing with water, is treated with HCl, forming calcium e and regenerating oleic acid, which is retained by the filter. rable the CaCl_2 is decomposed with H_2SO_4 , forming CaSO_4 , l, which is used again. Of the oxygenated compounds of r or soda that may be used, preference is given to potash or soda r. If a spar containing both alkalies is utilised, their bichro- can be simultaneously produced, since owing to the greater ty of the bichromate of soda the bichromate of potash can be ized out first, leaving the soda salt in solution. The advantages l are the possibility of using low grade chrome ores, the cheap- the sources of the alkalies, the absence of error in the acidifica- ccess, while the bichromate is obtained pure at the first ization, entailing no waste in mother liquors.

ess for Obtaining Cyanogen or its Compounds from the Gases ulting from the Dry Distillation of Substances of Organic Origin. Drehschmidt, 59, Tannstrasse, Berlin. Eng. Pat. 16,149. Aug. 24, 1894.

ntage is taken of the fact that cyanogen readily forms double nds with alkalies or alkaline earths in conjunction with a etallic oxide, which are with difficulty, if at all, decomposed r CO_2 .

ng the gases through solutions in which oxides of man- iron or zinc are in suspension, with a sulphide, carbonate or f an alkali or alkaline earth, leads to complications and diffi-

By way of obviation, a method is set forth for treating the es by passing them over porous masses of chemically precipi- oxides or carbonates of the requisite light and heavy metals. ical mixtures are useless. Four methods of preparing the nt mixture are detailed. The mass thus prepared is claimed to omogeneous and porous that the gases can act on every portion.

It is used in a precisely similar manner to ordinary gas purifying materials. The absorption of the cyanogen is complete, despite the presence of large quantities of H_2S and CO_2 . When saturated the mass is treated for the recovery of the cyanogen and formation of cyanogen compounds in any approved way.

EXPORTS OF PETROLEUM FROM U.S.A.

THE Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for May. The total shipments were 58,609,126 gallons compared with 73,870,325 gallons in May, 1894. The total for the eleven months ending May, 1895, was 806,783,987 gallons against 819,469,179 gallons during the same period in 1894. The details of the shipments are as follow:—

CRUDE PETROLEUM.			Gallons.
Total, May, 1895	.....		6,330,474
" " 1894	.....		9,255,661
NAPHTHAS.			
Total, May, 1895	.....		298,694
" " 1894	.....		868,503
ILLUMINATING.			
Total, May, 1895	.....		47,854,523
" " 1894	.....		60,827,093
LUBRICATING AND PARAFFIN.			
Total, May, 1895	.....		4,124,175
" " 1894	.....		2,907,014
RESIDUUM.			
Total, May, 1895	.....		1,260
" " 1894	.....		12,054

NEW TECHNICAL INSTITUTE.—Princess Louise laid the foundation stone of a technical institute in Lambeth Road, North Kensington, London, on Tuesday. The site was purchased with a sum of £2,500. subscribed in answer to an appeal by the Marquis of Lorne for funds to build a polytechnic to meet the requirements of the crowded working population of the district. The Campden Trustees came forward with £5,000, and the building when complete will be available for the classes held by this body in various centres of Kensington in carpentry, wood carving, dressmaking, and cookery.

A SINGULAR MISTAKE.—At the City Police Court, on Wednesday, before Mr. Harvey Goodwin and Mr. Fullerton, a grocer and provision dealer named Peter Rowlinson, who carries on business in Hyde Road, Ardwick, Manchester, was charged under the Merchandise Marks Act with selling margarine as butter. A Corporation inspector visited the shop of the accused on the 20th of last month, and saw seven parcels of margarine and butter on the counter. Three were labelled "margarine" and four were unmarked. From one of the parcels, which was unmarked, and which the inspector supposed to be butter, he purchased a pound, and was charged tenpence. On analysis it was found to be margarine. The defendant explained that the inspector was supplied with the margarine by mistake. The night before the purchase, owing to the hot weather, the butter and the margarine were taken into the cellar, and when brought up in the morning a parcel of butter was accidentally put on a platter labelled "margarine" and a parcel of margarine put where the butter should have been. He fully believed that he was serving the inspector with butter. A fine of 40s. and costs was imposed.

SHIP CANAL.—COMPARISON OF TRAFFIC RETURNS.—A very gratifying feature in connection with the traffic on the Ship Canal is to be discovered in the fact that, although compared with London the returns are very small, during the first year the Canal was open for shipping the transit trade of the port of Manchester, according to the official returns of the trade of the United Kingdom for 1894, was only exceeded by the Metropolis, Liverpool, Southampton, and Hull. The articles specially enumerated were spirits, tea, tobacco, and wines. 106,884 gallons of Geneva were imported during the year, and 106,876 gallons were exported, whilst of other spirits 290 gallons were imported, and the same amount was sent out of the port. Only ten gallons of wine were received here, and the same quantity was exported, whilst the articles not enumerated were imported to the value of £24,266, the exports being similar in value. This is the first occasion on which Manchester has figured in the returns, and the statistics for the present year when published will undoubtedly show a considerable increase should the traffic continue as at present. This week the *Forsete* passed inwards with about 500 tons of ice for this city from Christiana, this being the second full consignment of ice imported into Manchester this year.

Official Memoranda.

(From the Board of Trade Journal.)

ADULTERATION OF OLIVE OIL.

Mr. W. Percy Chapman, Her Majesty's Consul at Leghorn, in a report to the Foreign Office, alluding to the prevailing custom in Italy of adulterating olive oil, says that while fine olive oil is usually considered to be both palatable and nutritious, as well as a healthy article of diet, it may be conceded that adulterated as well as common olive oil—rancid or tainted because made from defective fruit—are both very objectionable. Adulteration is still prevalent with a certain class of trade, as is also the practice of selling a very inferior article and calling it Lucca oil. Only recently it was proved in one of the London police courts that a firm of oilmen, owning a number of shops, were in the habit of supplying their customers with an article dubbed "salad oil," which was simply a mixture of seed-oil with olive-oil—the latter necessarily of the lowest quality, since it would not pay to use a fine quality for such a vile purpose. The plea of the defendants, that their customers did not know what salad oil was and could not appreciate the difference between a genuine and an adulterated article, would only show that the former preferred to trade upon the supposed ignorance of their customers in order, naturally, to secure for themselves an extra profit, and to distance more honest competitors.

Oil in so-called Florence flasks should be entirely avoided by consumers in England, since through the unscrupulousness of some traders these pretty flasks have been degraded to a vile use, and cotton-seed oil pure and simple, or some adulterated rubbish, put into them. As bearing upon this, it should be mentioned that the Italian Customs authorities hardly seem to appreciate the importance to Italy—the leading olive oil producing country of the world—of prohibiting the adulteration of olive oil. For otherwise they would hardly permit the mixing of cotton-seed oil with common olive oil to be carried out in the entrepot, or Government bonded warehouses (the cotton-seed oil being in bond), for the sole purpose of exportation. It is hardly necessary to add that export houses of repute here in the fine olive oil trade are not guilty of such a practice; as also that pure and fine Tuscan oil is to be had without difficulty, and, indeed, is exported hence largely to London and other markets. Still, it is essential to state that the only guarantee the public in England can have lies in the name and standing of well-known firms of good repute, who, importing the article direct, are able to vouch for it, and who place it on the market. A practice followed by some second-rate concerns (for no house of good standing would thus sink its name) of supplying retailers with bottled oil bearing only the names of the exporters, not the names of the importers, is not to be recommended. It is too often a cloak for a cheap and nasty article, since the object is generally to make a larger profit than would be obtainable by selling fine Lucca oil guaranteed to be such by an importing firm of repute. It is no doubt owing to dishonesty in trade that many acquire a dislike for olive oil as food simply because a good part of what is sold is of very inferior quality, and perhaps also adulterated stuff,—in short, fit for soap-making or other industrial purposes, but certainly not for the table. Hence, no doubt, originated the advice given in a book of cookery published not long ago in England to the effect that in preparing salads, as little olive oil as possible should be used, because it was often of such bad quality.

PRODUCTION OF FRENCH BRANDY.

During the course of a debate, which recently took place in the French Chambers, the following statements were made with regard to the production of brandy in France. In the year 1850 the total production of alcohol of every sort was 891,500 hectolitres or 19,613,000 gallons; out of this total 815,000 hectolitres or 17,930,000 gallons were made from wine, cider, or from other fruit products; there remained, consequently, only 75,500 hectolitres or 1,661,000 gallons of trade brandy (*alcool d'industrie*).

In 1876 the total production of brandy had risen to 1,709,000 hectolitres or 37,598,000 gallons, of which 1,054,000 hectolitres or 23,188,000 gallons were trade brandy, and 655,000 hectolitres or 14,410,000 gallons were made from wine, cider, or fruit.

At this date the phylloxera made its appearance, and, as a consequence, the amount of brandy made from wine decreased steadily, whilst on the other hand the production of trade brandy increased enormously, and quite out of proportion to the diminution which occurred in the production of wine brandy, indeed, for 1 hectolitre or 22 gallons of wine brandy which disappeared no less than 3 hectolitres or 66 gallons of trade spirit made from corn, molasses, or beetroot took its place. Thus in the year 1886, out of a total production of 2,052,000 hectolitres or 45,144,000 gallons, not less than 2,000,000 hectolitres or 44,000,000 gallons were trade spirit.

In 1889 there was so much over production that the Chambers thought fit to decree by law of the 8th of July, 1890, an import duty of 3 francs per 100 kilogs. on maize and on rice with the view of diminishing the amount of brandy produced from farinaceous substances. As a consequence of the imposition of this duty the amount of brandy produced from this substance declined from 758,000 hectolitres or 16,676,000 gallons in 1889 to 392,000 hectolitres or 8,624,000 gallons in 1891. As far as the production of alcohol from maize and rice was concerned the object was attained, but the general situation did not change. It is true that there was a diminution of 350,000 hectolitres or 7,700,000 gallons from farinaceous substances, but on the other hand there was a corresponding increase in the amount of brandy produced from beetroot and from molasses. The fabrication of trade spirit was still further developed, and in 1893 the total production of alcohol had reached the extraordinary figure of 2,476,000 hectolitres or 54,472,000 gallons.

The consumption had at the same time augmented, but not in the same proportion as the production, which in 1892 and 1893 increased so rapidly that as a natural consequence the surplus stock of alcohol on hand on the 31st of December, 1893, was found to be 2,980,895 hectolitres or 65,579,690 gallons. The amount in hand is no doubt serious, but it becomes all the more so in view of the vintage of 1893. The wine produced in the month of September, 1893, would not in the natural course of things be made into brandy until the month of February or March, 1894. As the amount of wine turned into brandy increases, by so much will the trade brandy be put on one side, and the natural brandy will regain its original position. The situation is regarded in France as very serious for the departments of the north, where the greater part of the trade brandy is now produced.

BELGIAN MARGARINE PRODUCTION REGULATIONS.

Every owner of a margarine or artificial butter factory, or of vessels and utensils together forming an apparatus for the manufacture of margarine or artificial butter, is bound to make a declaration to the office of the receiver of excise. The owners of oleomargarine factories or tallow-melting houses are bound to observe the same formality.

The manufacturers referred to in the preceding article are bound to facilitate the Government officials in the performance of their duties. They must furnish these officials with the means of calculating the amount of raw material consumed, and of products obtained, and permit them to take the necessary samples. They are likewise bound to account for the origin of the raw materials.

Any attempt to suppress excisable material is punishable with a fine of 2,000 francs.

Any manufacture of margarine or artificial butter carried out without a declaration otherwise than by means of the vessels described as for this purpose in the declaration is punishable with a fine of 5,000 francs.

Besides the confiscation of utensils and imprisonment of from three months to two years, the fine referred to in the preceding paragraph is doubled if the act has taken place in an illicit factory, or, in the case of a legally-established factory, elsewhere than in the localities where the utensils described in the declaration are kept.

If a manufacturer of margarine or artificial butter works without having paid or guaranteed the duties, or if he has been mulcted in a fine for one or other of the reasons mentioned in paragraphs 2 and 3 of the present articles, the administration can, if deemed necessary for the assurance of the duties owing and the fines incurred, seize and remove, by an order of the President of the Tribunal, all the vessels and utensils of the factory.

PETROLEUM IN GALICIA.

The Austrian Minister of Finance reports that during late years the production of petroleum in Galicia has increased by 600,000 quintals yearly, while the importation of Russian petroleum into the dual State has diminished by 400,000 quintals, and that of the United States has been reduced to 80,000. The excise on petroleum has increased by two millions of florins yearly. A company formed at Fiume is engaged in active prospecting for petroleum in the Carpathians, and also in Croatia, where enormously rich springs are found.

GOLD RECOVERY BY THE CYANIDE PROCESS.—During June 56,780 oz. of gold have been recovered at the Rand, and 6,600 oz. in other districts—total 63,380 oz., by means of the MacArthur-Forrest cyanide process. The May total was 66,200 oz.

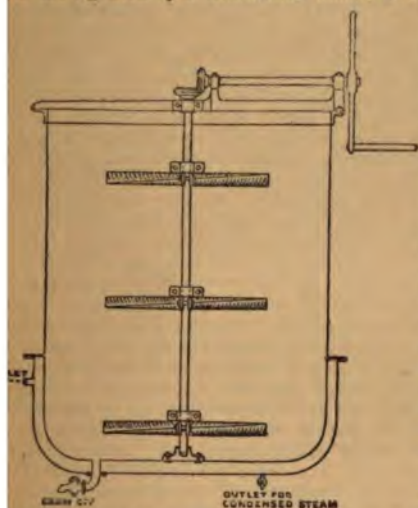
THE POLLUTION OF THE BOLLIN.—At Wilmslow Sessions on Tuesday, the Wilmslow District Council applied for an extension of time in connection with their northern sewage works, which are to cost £10,000. Some months ago proceedings were instituted by the Joint Pollution Committee respecting the pollution of the river Bollin. Land has been secured, but the works have not been commenced. The Bench granted an extension for six months.

THE ARCHIMEDEAN MIXER.

THE "Archimedeo" is a new mixing pan designed for the use of oil refiners, distillers, paint manufacturers, and others who make and large quantities of oils, spirits, liquid paints, varnishes, &c. General construction is simple. A series of blades or beaters (four in set) acting on the screw-propeller principle, is fixed to a vertical shaft driven by suitable gearing at the head of the pan.

The form of agitators is varied to suit the class of liquid or material mixed; but in every case the process is the same. The screw principle is the one applied, since it is recognised as the most effective method.

The cut herewith represents a semi-jacketed pan. In another make the pan is agitated by a continuous bladed screw of 2ft. diameter;



and, when in action, the 350 gallons of liquid being mixed is thus caused to travel from centre to side, and in an upward or downward direction, according to the direction in which the shaft is rotated. For this purpose hand or steam power can be used. The stem of the screw is bored to admit an upright shaft passing through it, and when adjusted it is fixed in position by stud screws. This mode of fixing has the advantage

of simplicity when removing for cleaning or repairs. When the bearing-in bridge is unfastened the shaft is at once released, and can be taken out. So also the screw, which is either made in one piece or put on in sections. In a large galvanised steel mixing pan now in making for the East, all the fittings inside are to be made of brass so that no corrosive metal will be in contact with the oil to be mixed as it comes direct from the presses. This pan is to be driven with fast and loose pulleys, and worked by steam power.

THE SICILIAN SULPHUR TRADE.

WITH regard to the depression in the sulphur trade, now of many years' standing, means are being devised for relieving the inconvenience. A meeting of representative Sicilian merchants, of mines or otherwise interested in the trade, was lately held in Palermo. It was proposed and generally approved by the meeting that an attempt should be made to form a "Sulphur Trust," or what was known in Italy as "Maggazini Generali," conditionally upon the Government conceding special privileges to the proposed syndicate, by a drawback of not less than 4 lire per 1,000 kilos. on the duty payable by the company, or by an equivalent premium to the "Trust" on all sulphur exported through its agency.

The following are some of the conditions on the prospectus of the proposed syndicate:—

The undertaking to have its offices and headquarters in Palermo, and branch establishments and stores at Catania, Licata, Porto Cefalo, and Termini Imerese. The committee of management will have the power to create and establish new branches whenever it is considered advisable.

The capital of the company shall be not less than 1,000,000 lire, nor more than 4,000,000 lire, according to the results of subscription. Shares are only to be allotted to mineowners, or such as are actually engaged in working mines, either as leaseholders or by other tenure. Warehousemen, merchants and factors, residing in the above-mentioned ports will be allowed to hold shares in the concern to a limited extent; that is to say, provided that the capital subscribed by such persons, factors, and merchants does not exceed one-fourth of the total capital subscribed, and in the event of the capital subscribed by non-owners exceeding one-third of the capital of producers, then a proportionate reduction will be made in the number of shares allotted to the non-producers, so as to maintain the proper ratio.

The shares to be of the value of 1,000 lire each, and not more than 100 can be held by the same individual.

The objects of the company are to provide for the keeping and storing of the sulphur and insuring same against the risk of fire. To make advances to the producers against the security of the sulphur deposited in the company's hands, and when required to pay the expenses of transport of the mineral, at the official bank rate of discount, from the mines or other intermediate points to the company's stores.

To issue deposit vouchers and mortgage certificates, and undertake the placing on board of the sulphur at either of the ports aforesaid where the company is represented, or otherwise disposing of the sulphur according to the instructions of the owners.

The committee of management to be composed of eleven members, representing the provinces of Palermo, Catania, Girgenti and Caltanissetta, two delegates at least from each province, who elect a president from their own number.

The members of this committee must be shareholders, and are obliged to deposit 50 shares as security.

Three-tenths of the amount of shares taken up must be paid at the time of signing the share list.

The total export of sulphur from Sicily to all countries during the four months ending October 31st during the years 1890-94, was as follows, viz.:—

July-October.	Tons.
1890.....	82,857
1891.....	82,855
1892.....	74,917
1893.....	78,073
1894.....	95,022

The total stocks of sulphur on hand in Sicily on:—

October 31st.	Tons.
1890.....	112,506
1891.....	116,246
1892.....	161,630
1893.....	175,317
1894.....	191,513

It is stated that the combined sulphur production of all countries of the world is not more than 15 per cent. of that produced and exported from Sicily alone.

IMPORTS AND EXPORTS FOR JUNE.

At first glance the Board of Trade returns appear unsatisfactory, but on making allowance for Whitsuntide they are on the whole fairly good. The values of the imports and exports of chemicals are lower. Olive and coconut oils are less in value and quantity. Petroleum, though less in quantity by over one million gallons, shows an increase of £33,577 in value.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

ARTICLES.	Quantities.	
	1894.	1895.
Margarine.....	Cwt. 79,327	58,765
Copper Ore and Regulus.....	Tons. 15,228	22,537
Pyrites.....	" 52,527	50,929
Tin.....	Cwt. 41,888	57,253
Alkali.....	" 29,965	32,631
Brimstone.....	" 19,954	37,871
Dyes, Coal Tar.....	£ 43,317	49,921
Saltpetre.....	Cwt. 20,591	16,979
Petroleum.....	Gall. 11,046,972	9,938,550
Turpentine.....	Cwt. 33,790	26,250
Guano.....	Tons. 3,838	5,812
Nitrate of Soda.....	" 9,678	5,660
Paraffin.....	" 15,520	26,829
Rosin.....	Cwt. 159,390	173,357
Tallow and Stearine.....	" 270,850	265,441
Oil Seed Cake.....	Tons. 19,724	29,952
Wood Pulp.....	" 21,681	23,091

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

ARTICLES.	Quantities.	
	1894.	1895.
Alkali.....	Cwt. 409,703	430,155
Cement.....	Tons. 49,667	41,703
Coal and Coke.....	" 3,014,455	2,976,871
Copper, all kinds.....	Cwt. 76,234	77,510
Iron and Steel.....	Tons. 260,157	265,111
Chemical Manures.....	" 33,895	23,590
Oils, seed.....	" 4,430	4,229
Salt.....	" 73,099	81,771

Correspondence.

* * We do not hold ourselves responsible for the opinions expressed by our correspondents.

UNSOLVED PROBLEMS IN VEGETABLE GROWTH.

(To the Editor of the Chemical Trade Journal.)

SIR,—In my last letter to you on this subject I related some experiments made with oats and a non-nutritious soil like sand, the object being to show that oxygen is the vital principal that sustains vegetable growth, just as much as it does animal growth. One noticeable fact in these experiments was that, although the tap roots that descended into the soil were surrounded by the chief component required for the formation of the stalk (silica), yet the root languished and died. Why? Because the silica in the sand was not in a form to be assimilated by the spongiolae of the root, to enable it to seize on its requisite quantity of silicious food for the formation of the stalk, the silica in the sand needed to be chemically acted on by certain agents, so that it could be absorbed by the root. Now this is the actual purport of a fertilizer. The soil of any particular locality may be rich in the mineral ingredients required by particular plants, but because some minerals are not in a suitable form for assimilation by the roots, the vegetable growth is stopped, and a withering or total death of the plant takes place. It is the object, therefore, to bring these mineral constituents into such a form that they can be assimilated by the roots, and it is the function of the agricultural chemist to ascertain what are the best agents for (a) particular soils, and for (b) particular plants, to enable the right ingredient to be extracted, and in the requisite quantity. "What is one man's food is another man's poison;" so in like manner a fertilizer that may suit a particular plant or a particular soil may be noxious to the plant grown on a soil of a different nature. Every one knows the deadly effect of a very minute portion of nicotine, atropine, strychnine, and other alkaloids when commingled with the human blood; in an analogous way certain fertilizers may produce chemical effects which are positively prejudicial to plant growth. Up to the present time the chemist's attention has been, and rightly too, chiefly confined to ascertaining which is the most convenient and cheapest fertilizer to set up the requisite chemical changes in the soil, so that the plant may be enabled to assimilate the required constituents. An endless number of experiments are required to furnish these data, both theoretical laboratory experiments and practical agricultural ones made on the growing crop. The latter is the more profitable series of experiments to make, because by so doing the experimenter ascertains not only the best fertilizing agent for the particular plant under treatment, but also what other constituents are set free by this same fertilizer, whereby a dissimilar vegetable can be planted in the soil to take advantage of the particular constituents so liberated, which will support the growth of this particular vegetable. A question that is closely allied to the germination of seeds and vegetable growth is the formation of mildew or fungoid growths. From experiments the writer has made on the germination of fungoid growths of various kinds, the inevitable conclusion is that there are three essentials necessary for the production of mildew. These are the presence of carbon, the presence of moisture, and of undisturbed, quiescent air, surrounding the surface on which the mildew forms. The absence of any one of these essentials is fatal to the formation of fungoid growth when set up from vegetable or animal decomposition. In the carbon we have the material for the solid structure of the filaments of the mildew, and the moisture supplies the necessary oxygen and hydrogen to generate the chemical reactions whereby the growth is formed. In dry air no fungoid growth is developed, because the putrescent matter dries up and dies. If the air be disturbed or circulate freely over the surface, the formation of the mycelium is retarded, so much so that after a short period of active growth it withers up, and further growth is completely stopped. It is not within the scope of this letter to detail all the experiments I have performed on these points, but it is open to anyone to verify them, and as suitable *media* I would suggest a decoction of logwood placed in an earthenware jar, but not reaching more than halfway up, the top left uncovered, and the jar stood on some shelf in a cupboard or cellar which is partially damp. Also make a mixture of gelatine and glycerine in water, also one of flour and water, and likewise one of curdled milk and ammonia. (To make this latter mixture, allow some new milk to stand in a warm place until sour and curdled, then collect the curds and mix them with sufficient liquid ammonia to form a fluid of the constituency of cream, and set this aside for a few weeks). In all these mixtures closely watch the various stages of fungoid growth, its colour and ramifications. Also note that if you breathe on it or touch it when about half-developed the mycelium so touched by breath or fingers ceases to grow, and eventually dies. After a few more weeks you will find a second fungoid formation will appear on the decayed one. The inference from this is that the period of vegetable fungoid growth is limited, and

beyond reaching a certain stage of development does not attain any other change of form. You will also find that if you fill the jars with the above various compounds the fungi will hardly appear, if at all. It is only in the semi-confined air that fills half the jar that the growth can develop.

Another fact I wish to draw attention to is this, decaying vegetable matter engenders fungoid growth which is immutable, but decaying animal matter develops living creatures. Of course bacteriologists all say that the germs of these living creatures are already in the animal matter, and it is only when the same is decomposing that the growth into vital life is brought about. Now I wish to state my firm belief that the germs are not pre-existent in the animal matter, but that as the animal matter putrefies new forms of life are spontaneously generated. The animal matter contains carbon, the moist quiescent surrounding air supplies the oxygen and hydrogen, and provided that the decaying matter is not disturbed by dry air, and that the surrounding air is sufficiently quiescent (as under the shade of leaves of plants, etc.), that animal life will be spontaneously generated out of these elements, carbon, oxygen, and hydrogen; and, moreover, that the shape such life takes is dependent greatly on the nature of the putrescent gases emanating from the decaying mass. This is a startling doctrine to formulate, and one which at first sight may appear atheistical, but it is not so. All I am stating is that animalculæ are formed by the elements above stated, but I do not pretend to offer an explanation as to how vitality is imparted to the protoplast. No one can say what is the vital force which imparts life to the new-born child, one moment an inanimate body, the next a living, moving, human being.

Another suggestion I want to offer is this, that the ultimate form the protoplast takes is dependent on the motion of the putrescent gases that surround it during birth, and its protoplasmic stages. Some take the form of beetles, and eventually develop into wingless, crawling creatures; others may develop into winged insects which can fly about, etc. In illustration of this point I would instance the great variety of flies and parasites incident to plant life. Every plant develops an insect peculiar to itself, bred under the quiescent air of the leaves, and fed and developed by the gaseous emanations of the plant itself.

One word before ending on antiseptics and disinfectants. The germ theory of diseases has greatly developed, and received much thought and attention lately, but all explanatory theories assert that the germs are brought from some other body or locality where they are found in sufficient numbers to create an epidemic. I would ask these theorists if the living moving maggots bred in cheese are imported from any foreign source; are they not generated in, bred, and fed on the decaying mass constituting the cheese itself? You open a fine hard-crusted Stilton cheese, and in the middle find a moving mass of maggots. Were the germs of these maggots imported from the outside source, through the hard crust into the interior of the cheese? I think not, but were generated after the manner above suggested about spontaneous generation. Germs, microbes, bacteria or what you like to call them, exist everywhere we all know, but is only when they meet with conditions of blood suitable to fructify therein, that human diseases are engendered. Keep your blood pure and, *ipso facto*, nerves strong and healthy, and you can swallow a mouthful (a few million) of these germs and develop no disease therefrom. But let the blood be immature, as in the case of the new-born child, and you have but to inoculate that child's blood with a few germs, as in vaccination, and you will start the blood in a ferment caused by the germ struggling to grow and reproduce itself, too frequently at the expense of the child's breath. (Now vaccinationists don't be down on me for this assertion, or I may venture to retaliate with some telling facts that will demolish all your beautiful theories about vaccination.) When we see the house flies dancing and playing "kiss in the ring," in the air of our apartments, are they not swallowing some freshly formed germ that has just grown to a size discernable to their very powerful eyes, and that which we think to be one fly touching another, is, in fact, both flies darting after the same morsel of food; for if you watch the flies closely you will observe they never actually touch or collide with each other.

Now, presuming that the air of our apartment is alive with invisible germs, how can we best destroy this living mass which doubles and quadruples itself every second until at last the air becomes too foul to breathe? Our usual course is then to introduce some pleasant smelling, so-called disinfectant, which disguises the unpleasant odour, but it does not necessarily thereby destroy the living, growing mass of germs, that still continue to thrive. A disinfectant, to be true to its name, must be one that will act chemically on these germs, whereby their constituents are separated and the germs thereby cease to possess vitality. The chemicals that seem to fulfil this purpose most efficiently are chlorine gas, which apparently acts by seizing on the hydrogen constituent of the germ whereby life is destroyed, *i.e.*, put salt on a slug and note the short time it lives afterwards; sulphurous acid gas, which, by its efforts to combine with the elements of water will seize on the hydrogen and oxygen constituents of the germ and so destroy it; and carbolic acid, which by supplying the carbon element

undant quantity enable the germ to feed "not wisely but too
that it dies of a surfeit of one of its constituents, bursting
here is not an adequate supply of oxygen and hydrogen present
ace with the abnormal growth.
I had better stop here and leave my readers a chance of
g their views.—Yours, &c.

H. C. STANDAGE.

ly Hill, Brimingham.

Selected Correspondence.

ENGLISH AND GERMAN SALT.

To the Editor of the Manchester Guardian.

A significant report on the export of salt from the Mersey the other day (C.T.J., p. 20, 425). It shows a decline of ns during the past six months, as compared with the first six of last year. The greatest falling off appears in the figures o Asian ports, which for all practical purposes means Calcutta 2000. In 1885 I had occasion to report upon the general North Germany to the Foreign Office (Lord Salisbury was 10wer), and upon the trade of Harburg-on-the-Elbe in par. Under the heading of "Salt Industry" I wrote the following:— tfully beg to call particular attention to this article of German In 1881 a sample lot was consigned to Rangoon for the first l in 1884 no less than 12,000 tons were exported to the ntioned port. To-day the price at Hamburg free alongside s. per ton, while in Liverpool the same quality is quoted at on. Several vessels have been chartered here during the weeks at 10s. per ton, while in Liverpool 13s. per ton is us giving the Germans a margin of 3s. per ton over British t worth looking into in the interest of British trade. In 1884 ns of British salt were exported to Rangoon. With such a favour of the Germans, they are creeping into the Calcutta

Up to the present no salt in large parcels has been shipped ta, but I have been asked for a ship during the last t to convey 2,000 tons to this port. In 1884 the market received 287,769 tons of British salt, and the present t of German enterprise deserves to be closely followed. From ed table of comparative railway rates from the salt-producing o Harburg and Hamburg it will be found to favour Harburg arks (5s.) per truck of ten tons, which still gives a further r the German article when the depth of water shall admit the f such large vessels in Harburg. Enclosed herewith is the ffer for the German article at 11s. per ton, with the analysis. e whence this salt is procured is Government property. ousand tons of this salt have been already exported to Eng- Scotland. I can submit to your Lordship no stronger proof ention which this article of German export is receiving from German Government and German merchants interested in the a the fact that a deputation from the German Foreign Office at the moment of my writing [these lines, is in Nantwich, of the Cheshire salt district, studying the English method of a—doubtless to be used as a future weapon against this most branch of British export." We have comparatively lost this trade, and I could write as much, had time and space upon the glass trade and one or two others. German consuls nan officials abroad are requested by their Government to or trade for the Fatherland. Why cannot our representatives ise? At present they have orders not to do so. In my opinion it is time they should.—Yours, &c.,

LLEWELYN J. DEDWYDD.

ster, July 12th, 1895.

USE OF SOCIETY MEETINGS.—Now that it has become a universal custom for all crafts and professions to have their ties, and for these societies to hold periodical meetings to l discuss progress, an opening is afforded for a species of -advertising which it will be well for chairmen to set their nt. Instance after instance could be quoted by those able tween the lines of contributions to discussions at these meet- th have had the one and only aim of dragging in the fact that body or other is the person to whom application should be fuller information, whether it be on the merits of a patent yrup or upon a scheme of town sewerage. This kind of ers the tone of the meetings of the society, but a little judicious n the part of the chairman would do a great deal to reduce

What perhaps might meet the case would be a Society of tisers, wherein those who are addicted to this practice might ther and extol themselves to their heart's content without the susceptibilities of others who might have congregated for purpose.

Trade Notes.

THE RUSSIAN PETROLEUM INDUSTRY.—In a report on the trade of the district of Batoum, issued on Saturday, the British Consul deals at some length with the enormous development of the Russian petroleum industry. The report explains that if the demand for oil for fuel in Russia continues to increase at the same rate as it has done within the last two or three years, in consequence of this class of fuel being more and more widely adopted for the use of railways, factories, steamers plying on the inland seas and rivers, and other undertakings using steam power, the time is by no means far distant when we shall see the Russian market in a position to consume in the shape of fuel almost the entire output of the wells on the Caspian, and probably the supply will even be insufficient to meet the demand.

THE CHESHIRE SALT TRADE.—The official returns for June of the shipments from Liverpool, Runcorn, and Weston Point are fairly satisfactory, but scarcely up to general expectation. The weight of white salt forwarded is 78,507 tons, which is slightly in excess of the average for the past five years; and there is a promise that trade will be more regular in future. There have been changes in some of the markets. Matters are more hopeful with regard to the United States, the increase being gradual. Africa had taken a very large quantity, but Germany very little. With regard to the coastwise shipments they had been very satisfactory. The shipments from Liverpool were 52,569 tons, Runcorn and Ship Canal 7,799, and Weston Point 18,139; total, 78,507 tons. The total of rock salt for the three ports was 3,673 tons.

GROUND GINGER PROSECUTIONS.—At the Manchester County Police Court, some time since, before Mr. Yates, Q.C., Sarah E. Wilshaw, of Urmston, was charged with selling as "ground ginger" something which consisted entirely of spent ginger—a worthless residue obtained when the flavouring matters have been extracted. Defendants handed to the bench a tin whose label represented the article sold as "genuine ground ginger." It was bought from Mr. Parish, Miller's-lane, Manchester, and that gentleman was supplied by a Liverpool firm.—Mr. Yates said he should like to get at the people who originally made and sold the stuff. According to a recent decision, the tin and the label on, "genuine ground ginger," constituted a warranty to the defendant, and she was not liable. The case was adjourned for a month, Mr. Yates remarking that some means must be taken to get at the wholesale dealer.—Arthur Barton, also of Urmston, was charged with committing a similar offence. Precisely the same defence was put forward, and in adjourning the case for a month Mr. Yates said the defendants might receive an intimation that they need not attend the court again.—At Lancaster Richard Towers was summoned for selling ground ginger, alleged to have been adulterated with 25 per cent. of spent ginger. Messrs. Wright, Crossley, and Co., Liverpool, the grinders, who guaranteed the ginger, had a sample analysed by Dr. Campbell Brown and Dr. Williams, Liverpool, the former certifying that the sample did not contain a trace of spent ginger. Somerset House corroborated the analysis of Dr. Campbell Brown. The Bench dismissed the case.

GOLD PRODUCTION.—Block B, Langlaagte:—Production for June: Mill—Stamps running, 75; ore crushed 9,185 tons; gold retorted, 2,228 oz. Tailings (cyanide process)—Tons treated, 4,730 tons; gold recovered, 459 oz. Concentrates (cyanide process)—Tons treated, 156; gold recovered, 333 oz. Total gold recovered, 3,020 oz.—Langlaagte Estate:—Production for June: Mill—Stamps running, 160; ore crushed, 19,328 tons; gold retorted, 7,974 oz. Tailings (cyanide process)—Tons treated, 16,720; gold recovered, 3,002 oz. Concentrates (cyanide process)—Tons treated, 585; gold recovered, 2,031 oz. Total gold recovered, 13,007 oz.—Robinson:—Production for June: Mill—70 stamps at work, 8,992 tons of ore crushed, yielded in smelted gold 9,900 oz.; from concentrates (by chlorination), 1,310 oz.; from tailings (cyanide process), 1,371 oz.; from own ore, 12,581 oz.; from concentrates bought (by chlorination), 2,020 oz. Total gold recovered, 14,601 oz.—New Clewer Estate:—Results for June: From mill, working 23 days—Crushed, 1 642 tons, yielding 495 oz. of gold; From cyanide works—Treated 1,190 tons, yielding 741 oz. of gold; total yield, 1,236 oz. of gold; total value, £3,101.—Jumpers:—Results for June: Crushed 9,901 tons, obtained 4,855 oz. of gold from mill; concentrates equal to 643 oz. of gold; from tailings by cyanide, 1,090 oz. of gold; total, 6,588 oz. of gold.—Roodepoort United Main Reef:—Crushing for June: 6,300 tons produced 3,573 oz.; cyanide works, 1,190 oz.; total, 4,763 oz.—Champ d'Or, French:—During the month of June mill worked 28 days, 50 stamps; crushed 4,955 tons, yielding 2,703 oz.; cyanide, 922 oz.; total, 3,625 oz.—Simmer and Jack:—Crushed last month, 11,115 tons; obtained 5,416 oz. of gold from mill, 601 oz. of gold by chlorination, and 2,600 oz. of gold from tailings by cyanide.

CHANGE OF ADDRESS.—Messrs. F. J. Putz and Co., formerly of 21, Mincing-lane, have moved to more convenient and commodious offices at 16 and 17, Great St. Helens, E.C. This advance is due to the firm, which has now been established over 35 years, having opened a branch devoted to salicylic acid, antimony salts, chemical and physical apparatus, and bottles of all kinds suitable for the chemical trade.

ACT. GES. F. CHEM. IND. MANNHEIM.—This well-known manufacturing firm advises us that they have taken up the manufacture of liquified acetylene. It is imported from Germany in steel cylinders containing 6lbs. and 10lbs. of acetylene. The cylinders are precisely similar to those used so extensively for compressed oxygen, carbon dioxide, and chlorine gases, being made of mild steel, and officially tested to 3,700lbs. to the square inch.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzol is dull, the better quality being easier in price. There is a rather easier tone in carbolic acids, that is to say, for 40% crystals, but 60% crude is unaltered at 1s. 8d. There is no change in the position or price of both crude and solvent naphtha. Anthracene and creosote show no signs of changing materially from the prices which have now been ruling some time. Pitch keeps steady at 37s. to 37s. 6d., f.o.b. East Coast.

Sulphate of ammonia is quiet, and rather unsettled as to price. The low quotations ruling are apparently largely due to the action of dealers, who, presuming upon the state of stocks in certain quarters, are quoting as low as they can. There is not much doing, however, at current values. London is quoted £9 12s. 6d., Liverpool £9 8s. 9d. to £9 10s., Hull £9 8s. 9d., and Leith £9 7s. 6d. to £9 8s. 9d. Nitrate of soda is quiet.

REPORT ON MANURE MATERIAL.

The market remains very quiet, and any alteration in values is in favour of buyers. The quotations for mineral phosphates are unchanged, but buyers are indifferent, and only concessions would induce important business. River Plate bones are still inquired for, and there would be buyers of cargoes of handy size at £4 5s. per ton, delivered good United Kingdom ports. There are sellers of crushed Kurachee bones, for shipment, at £4 7s. 6d. per ton, and £4 7s. 6d. per ton is about the value of Bombay bone meal in the forward position. Nitrate of soda is a shade easier in all positions. On spot the value of ordinary quality is 8s. 1½d. per cwt., and of fine quality 8s. 3d. For autumn shipment cargoes are worth about 8s. 4½d. per cwt. The much-talked-of combination of producers hangs fire on the West Coast; hence the quieter market. There is nothing special to report in miscellaneous ammoniacal material, buyers for the most part holding aloof.

THE METAL MARKET.

LONDON, WEDNESDAY.—Pig iron, firm: Scotch warrants closed at 45s. 4½d. Middlesbrough 36s. 5d. cash, and hematite 45s. 5d. Copper, steady: Chili bars, G. O. B.'s and G. M. B.'s, closed at £44 1s. 3d. to £44 6s. 3d. cash, and £44 7s. 6d. to £44 12s. 6d. three months. Tin, firm: Straits closed at £63 17s. 6d. to £64 7s. 6d. cash, and £64 2s. 6d. to £64 12s. 6d. three months; Australian, £64 12s. 6d. Lead: Spanish, £10 11s. 3d. to £10 12s. 6d.; English, £10 12s. 6d. to £10 15s. Silesian spelter, ordinary, £14 6s. 3d. to £14 8s. 9d. Nickel, 1s. 1½d. Antimony, £32. Quicksilver: first hands, £7 5s.; second hands, £7 4s. Copper shares, steady: Cape, 1½ to 2½; Copiapo, 2 to 2½; Libiola, 3¼ to 3½; Mason and Barry, 2½ to 2¾; Rio Tinto, 16½ to 16¾; Tharsis, 4½ to 4¾.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil being easier in price has been moving more freely, and satisfactory sales have been made of Accra, at £18; soft oils, at £18 15s.; and Lagos, £20. per tun, all transit. Olive is in fairly good request, at £30 10s. to £38 10s. per tun, according to quality. There is no change in linseed, which remains steady, at 22s. 9d. to 23s. per cwt. in export casks for Liverpool makes. Cottonseed is a notch lower, Liverpool being quoted 17s. 9d. to 18s. 3d., and American 18s. per cwt., with a dull market. Castor oil is not in great

demand, but the slackness of the inquiry does not appear to affect prices, which are 2½d. for good seconds Calcutta, and 2½d. to 2¾d. per lb. for first pressure French. There is virtually nothing doing in tallow, but the tone of the market is steady. Resin is firm, but the prices preclude much business, which is quiet. Spirits of turpentine are unchanged, at 22s. per cwt., at which there is a moderate business doing. Petroleum keeps firm, American being quoted 6¼d. to 8½d. per gallon, according to quality, and Russian refined 6d.

MISCELLANEOUS CHEMICAL MARKET.

There is no material alteration in values of alkalis generally. For Bleaching powder there is a fairly good demand for export at £7 5s. to £7 7s. 6d. per ton, hardwood, f.o.b. Liverpool; softwood, £7 per ton, f.o.r. makers' works. Alkali, 58%, bags, £2 17s. 6d. makers' works, prompt and forward. Soda crystals dull at 35s. Caustic soda steady in price, and in fair request for export, spot and forward quotations being as follows:—F.o.b. Liverpool, 77%, £9 7s. 6d.; 74%, £8 7s. 6d.; 70%, £7 10s.; 60%, £6 10s.; 10 ton lots and upwards. In chlorate of potash and soda there is no movement, business being quiet, and prices are unchanged at 4¾d. and 6½d. per lb. respectively. Leblanc soda ash ½d. to 1d. per degree, in casks, f.o.b. Recovered sulphur is still without any change at £3 12s. 6d. per ton. Demand continues fairly good for potash, caustic and carbonate, and of the better qualities stocks are small. Nitrate of soda is a slightly easier market at £7 17s. 6d. per ton. Sulphate of copper steady at £15 5s. to £15 10s. f.o.b., with fair inquiry. Brown acetate of lime still without improvement in price, at £5 5s. to £5 10s. c.i.f. For grey acetate of lime there is no demand. Acetate of lead, soda, and all other acetates are slow of sale, and with no prospect of better prices. Yellow Prussiate of potash, 7¾d. Cyanide of potassium quiet at 1s. 6d. Carbolic acid crystals have slightly declined for spot delivery. White powdered arsenic continues scarce, and prices firm at £15 to £15 5s. per ton at Garston and other centres. Borax and boracic acid are still suffering from undue competition, and there is no general improvement noticeable as yet in the demand for chemicals from any of the manufacturing centres.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—This being the eve of the election it is difficult to find anything of more importance. The struggle here seems resolved into a tug-of-war between capital and labour. Other business, both in shipping and trade, are much depressed. The imports of linseed from Indian ports during the 27 weeks of this year have amounted to 36,000 qrs., against 214,000 qrs. for the same time a year ago, still the imports of this seed into Hull for the same period have been 301,963 qrs., against the same time a year ago of 241,720 qrs. Linseed oil has improved about 5s. per ton, closing quiet at 20s. 9d. naked spot; month quoted 20s. 7½d.; August, 20s. 6d.; September-December, 19s. 4½d.; and January-April, 19s. 3d. Boiled and refined from £1 to £2 per ton extra. The export for the week has been 1,620 cwt. Refined cotton oil flat, and 2s. 6d. to 5s. per ton lower; spot, 16s. 14s. 6d. naked spot. Casks 17s. 6d., and barrels ordinary, 27s. 6d. per ton extra. Export of refined oil for the week has been 2,160 cwt. Olive oil unchanged. Spirits of turpentine easier, 22s. 3d. per cwt. in barrels, Rape oil unchanged. Cod oil from £17 to £19 per ton. Siccative oil from £12 per ton. Castor oil unchanged, about 2¼d. per lb. for first pressure. New wool oil, £13 10s. per ton. Liquid soap, special for laundry work, £14 10s. per ton. Disinfecting fluids, "carbolene," 2s. 6d. per gallon; "eucalyptaline," 3s. 6d. per gallon. **CAKES.**—Trade slow. Linseed cakes, 95% pure, £6. Oil cakes, £5 2s. 6d. to £5 5s.; Russian, £6. Cotton cakes, best makes, £3 15s. to £3 17s. 6d.; seconds, £3 10s. to £3 12s. 6d. Rape cakes unchanged.

PAINTS.—Trade moderately good. Prices are: Oxide of zinc, white and red leads unchanged. Yellow ochre, mineral black, blue black, and venetian red, dry, from about £4 per ton; assorted various coloured paints, from £11 per ton; imperial black varnish, £5 10s. per ton; paint remover, 25s. to 30s. per cwt.; oak varnish, from 5s. 6d. per gallon.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals continue without much life, though fair quantities continue to be shipped. Soda crystals at £1 17s. 6d. per ton, gross weight, locally. Bleach at £7 to £7 5s. Sulphur steady at £3 17s. 6d. per ton. Other articles as under quoted.

aching powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton, caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. n, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; ash, 48%, £3. 15s. per ton, nett; do., 52%, £4. 2s. 6d. per nett; do., 56%, £4. 10s. per ton, nett; alkali, 36%, £2. 15s. m, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of 5-7 cwt. casks, £6. per ton, nett; do., 1 cwt. kegs, £6. 12s. 6d. m, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. ton, nett; soda crystals, casks, £1. 17s. 6d. per ton weight; do., 2 cwt. bags, £1. 17s. 6d. per ton, nett; ate of potash, 5½d. 7s. per lb., less 6%; pearl hardening, per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. m, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. per ton, nett.

LT.—South Durham salt continues steady, at 9s. to 9s. 6d on, f.o.b. Tees.

ALS are rather easier, and there is a plentiful supply of all qualities. y's prices are as under:—Best Northumbrian steam, 8s. 9d. to 9s. n; second quality ditto, 7s. 9d. to 8s. per ton; small steam, 3s. 3d. to l. per ton; gas coals, 6s. 3d. to 6s. 6d. per ton; bunker coals, 1 to 7s. 6d. per ton; household coal, 10s. to 11s.; coke steady, 14s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

duction has entirely ceased in this quarter for a space of time on casion of the industrial holidays, and business also has been at a till, but for a briefer period. Some of the city offices resume t-out the normal swing of business will not be reached for a day or . Meanwhile the market position of most of the chemicals is stood to have undergone no change. The temporary restriction duction will exercise a beneficial influence, though not to any marked extent. Sulphate of ammonia was on an idle market transactions fell to be suspended last week, the value being y under £9. 10s. The ideas of operators are about the same now, but as yet there has been no resumed business reported, e are thus without the test of actual selling. Mineral oil circles re excited by a report that the American and Russian producers oleum have agreed to put less on the market than formerly, as a and thus to raise the selling price. If this is genuine the Scotch l make a further mount, and the native industry thereby score a recovery from the late very dangerous condition.

f prices current are:—Soda crystals, 35s. to 37s. 6d. nett, Tyne; sh, 48/52°, £3. 15s. to £4. 10s. nett, Tyne; white alkali, £4. 10s. to £5. 5s. nett, Tyne; alum in lump, £5. 10s. nett, w; caustic soda, white, 74° £9., 70/72° £7. 15s., 60/62° s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching r, £6. 5s. to £7., nett, Tyne; saltcake, 17s. 6d.; borax, English £20., and boric acid, £30. nett, Glasgow; bicarbonate of ;-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool;

bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¼d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 5d. less 5%, Liverpool; nitrate of soda, 8s. 3d. to 8s. 6d.; sulphate of ammonia, £9. 8s. 9d. to £9. 10s. prompt, f.o.b. Leith; salammmoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 12s. 6d., less 5%, Liverpool; paraffin scale, hard, 2½d.; and soft, 1¾d. to 2½d. per lb.; paraffin wax 120° semi-refined, 2½d. to 2¾d.; paraffin spirit (naphtha), 7d. per gallon; paraffin oil (burning), No. 1 6½d., and crystal 6¾d., at works, for Scotch buyers (English sales 1d. lower); ditto (lubricating) 865°, £4. 5s.; 885° £4. 10s. to £5., and 890/895° £5. to £5. 10s. Week's imports of sugar at Greenock were 5,000 bags cane unrefined, and 4 000 bags beet unrefined.

New Companies.

R. and J. Pullman, Limited.—CAPITAL £213,000., in 70,000 5 per cent. cumulative preference shares, 140,000 ordinary, and 3,000 founders shares of £1. each. The company has been formed to develop the business of the Industrial Contract Syndicate, Limited, and to trade in leather, hides, skins, &c. The subscribers to the memorandum of association are:—A. R. O. Gery, 2, Vere-street, W. solicitor; T. Newell, 19, Lordship Park, N., secretary; F. Flavell, 48, Jervis-street, Fulham, clerk; S. J. White, 33, Smith-street, Chelsea, registrar; C. H. Furness, 20, Steele-road, Leytonstone, clerk; J. W. Burt, 24, Montpelier-street, Walworth, cashier; H. C. Heywood, 37, Belmont-road, Tottenham, accountant.

Gold Ore Treatment Co., of Western Australia, Limited.—CAPITAL £150,000. in £1. shares. This company has been formed to adopt an agreement between the Gold Ore Treatment Co., Limited, and C. A. Moreing, and to turn to account certain patents, &c., for the extraction of gold and precious metals from ores. The subscribers to the memorandum of association are:—C. A. Moreing, M.I.C.E., Broad-street House, E.C.; F. A. Williams, 10, Great Queen-street, W.C., writer; P. H. Crawford, 169, Kyverdale-road, Stamford Hill, secretary; F. A. Thompson, 54, Old Broad-street, E.C., mining engineer; P. Tibbs, B.A., Oxon., 2, Granville-place, Portman-square, W.; C. Vautin, 3, Upper Hamilton Terrace, W., metallurgist; H. A. Whitaker, 42, Old Broad-street, merchant.

Gazette Notices.

PARTNERSHIP DISSOLVED.

T. FINLATER and F. G. KERR, oil, wax, and tallow brokers, Manchester, Barton-on-Humber, and Macclesfield, under the style of Finlater and Kerr.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

PAGE, WM. and JAMES WM. HENRY (trading as the City Oil Co.), Birmingham oil refiners and merchants.

IMPORTS OF CHEMICAL PRODUCTS

AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending July 6th.

Acid—	
nd, 1 pkge.	White Brs.
75	A. & M.
55	Zimmermann
210	Little & Johnston
	Beresford & Co.
ne—	
any, 10 drs.	Thames S. T. & L.
	Co.
20	Ryley & Co.
5 pks.	J. Greig
20	A. Willcox
nd, 1	T. H. Lee
a, 35	C. S. Lovell
10	Thames S. T. & L.
	Co.
m, 232 c.	Arnati & Harrison
m, 25 pks.	R. W. Greeff & Co.

Ammonium Chloride—	
Holland, 4 pks.	H. Lorenz
Aniline—	
Holland, 3 pks.	L. C. & D. Rly.
Asbestos—	
Canada £2,000	J. Owen
Holland, 10	Schenker & Co.
Barium Chloride—	
Germany, 1 pkge.	W. G. Blagden
Barytes—	
Belgium, 108 cks.	Magee, Taylor & Co.
Germany, 211	W. Harrison & Co.
Holland, 22	Ellam, Jones & Co.
"	H. Keller & Co.
Belgium, 69	Soundy & Sons
"	J. L. Lyon & Co.
Bleaching Soda—	
Germany, 100 cs.	H. Lambert
Borax—	
E. Indies, 31 pks.	P. op. Sun Wf.
Camphor—	
Japan, 308 pks.	N. S. S. Co.
Germany, 6	T. H. Lee

Caoutchouc—

E. Indies, 36 c.	S. Figgis & Co.
Germany, 13	L. & I. D. Jt. Co.
E. Indies, 385	G. Ward & Sons
" 138	L. & I. D. Jt. Co.
B. Burmah, 94	"
France, 70	Hernu, Peron & Co.
" 50	H. Johnson & Sons
U. States, 165	Prop. Bull Wf.
E. Indies, 320	W. Balchin
U. States, 4	L. P. D. Co.
" 2	Williams, Torrey & Co.
Belgium, 55	Sawer, Sons & Co.
E. Indies, 62	Prop. Bull Wf.
" 23	Elkan & Co.
U. States, 24	Stiebel Brs.

Castor Oil—

Ceylon, 107 brls.	Lucas & Spencer's Wf.
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Caustic Potash—

Holland, 5 cs.	E. Merck
France, 105 c.	Spies Brs. & Co.

Caustic Soda—

Holland, 2 c.	E. Merck
Chemicals (otherwise undescribed)	
Holland, 1 drs.	J. Barber & Co.
Germany, 10 pks.	Craven & Co.
" 9 £9	Phillipps & Graves
Holland, 10 cks.	Beresford & Co.
Germany, 43 pks.	A. & M. Zimmermann
U. States, 100	Anderson, Weber & Smith
Belgium, 5	T. Palmer
Holland, 10	E. Merck
" 1	Phillipps & Graves
Germany, 12	L. & I. D. Jt. Co.
France, 13	B. & F. Wf. Co.
Germany, 1	Jenson & Nicholson
" 46	T. H. Lee
" 1	Krayer, Back & Co.

Cobalt Ore—

Sydney, 32 t.	A. Frey & Co.
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Cream of Tartar—

Holland,	32 pkgs.	Kirkpatrick & Co.
"	8	B. & F. Wf. Co.
France,	9	"
"	10	M. Ashby, Ltd.
"	2	W. C. Bacon & Co.
"	2	C. Blackmore & Co.
Holland,	5	F. C. Devon & Co.

Dextrine—

Germany,	50 pkgs.	Hernu, Peron & Co.
"	100	Ross & Deering
"	50	M. D. Co.

Dyestuffs—

Denmark,	6 pkgs.	Sorensen & Co.
Cochineal	"	"
Canaries,	4 pkgs.	W. M. Smith & Sons

Cutch

Rangoon,	1,230 pkgs.	J. Owen
E. Indies,	700	J. Swire & Sons
Rangoon,	10	Steel Bros. & Co.

Extracts

U. States,	330 pkgs.	L. & I. D. Jt. Co.
Holland,	6	Phillips & Graves
France,	92	Carey & Sons
Denmark,	2	Fuerst Bros.
Italy,	1 cs.	E. Fellingham
Denmark,	26	Sorensen & Co.
Austria,	300	A. J. Humphery
France,	211	Bennett S. S. Co.
"	40	T. H. Lee

Fustic

Jamaica,	55 t	Anderson, Anderson & Co.
"	4	J. Hales, Caird & Co.
"	20	Park, Macfadyen & Co.

Gambier

E. Indies,	457 pkgs.	G. Ward & Sons
"	263	Beresford & Co.
"	304	Brown & Elmslie
"	442	Adamson, Gillfillan & Co.
"	474	J. Greig
"	1,791	W. Balchin
"	1,335	Adamson, Gillfillan & Co.

Indigo

E. Indies,	35 chts.	Croydale & Co.
"	23	Arbuthnot, Latham & Co.
"	26	R. Von Glehn & Sons
"	23	Park, Macfadyen & Co.
Italy,	85	L. & I. D. Jt. Co.
E. Indies,	7	L. & N. W. Rly
"	5	Wallace Bros.
"	7	F. W. Heilgers & Co.

Logwood

Jamaica,	15 t.	L. & I. D. Jt. Co.
"	8	Park, Macfadyen & Co.

Myrabolams

E. Indies,	1,240 pkgs.	Baxter & Hoare
"	1,334	J. Graves

Shumac

Germany,	210 pkgs.	J. Graves
Italy,	100	W. Harris & Co.
"	500	Harris Bros.
"	53	Laddington & Co.
"	500	J. Kitchin, Ltd.
"	100	J. Knill & Co.
"	310	Beresford & Co.

Tanner's Bark

Adelaide,	7 t.	Baxter & Hoare
Germany,	30	Leach & Co.
"	10	Drolenvaux & Bremner

Turneric

E. Indies,	55 pkgs.	Major & Field
Yalonia	"	"
E. Turkey,	32 t.	Anning & Cobb
France,	60	Schlosser Bros

Farina—

Holland,	100 pkgs.	Seaward Bros.
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Glucose—

Holland,	40 pkgs.	40 c.	Prop. Sun Wf.
Germany,	100	130 c.	L. & N. W. Railway
"	2,050	3,100	J. Barber & Co.
"	200	400	"
"	50	100	J. Symons & Co., Ltd.
Belgium,	102	204	T. H. Lee

Holland,	100	205	J. T. Morton
France,	50	100	Prop. Hay's Wf.
"	100	200	Fellows,
U. States,	150	150	Morton & Co.
"	50	273	Barrett, Tagant, & Co.
"	650	3,700	T. M. Duche & Sons
Germany,	17	140	J. Newcomb
"	500	500	J. Knill & Co.
U. States,	2,073	6,901	Baxter & Hoare
"	100	600	R. G. Hall & Co.
"	200	1,165	Williams,
"	50	97	Torrey & Co.
"	50	281	Ohlenschlager Bros.
"	50	281	H. Johnson & Sons
"	50	281	J. Keiller & Son, Ltd.

Germany,	26 drs.	Beresford & Co.
Holland,	13	R. Greening

Holland,	5 t.	W. Byford
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Japan,	300 t.	Macqueen Bros.
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Chili,	1,930 t.	W. Montgomery & Co.
E. Indies,	800	A. Hunter & Co.
Peru,	1,800	Anglo-Contl. G. Wks.

Germany,	10 dms.	L. & I. D. Jt. Co.
"	10	Stein Bros.

U. States,	200 cks.	1,070 c.	L. Sutro & Co.
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Holland,	6 cks.	Phillips & Graves
France,	119 brls.	D. Storer & Sons
"	31 cks.	W. Harrison & Co.

U. States,	111 brls.	G. H. Frank
"	848	Anglo-American Oil Co.

W. Indies,	408 t.	G. M. Banes
N. Russia,	550 brls.	Fellows, Morton, & Co.
U. States,	3	Becker & Ulrich

Germany,	41 cks.	E. R. Goodrich
"	42 cks.	H. C. Everett
Ceylon,	103	Prop. Scott's Wf.
"	29 brls.	R. G. Hall & Co.

Canada,	25 c.	S. Ward & Co.
Holland,	100 c.	Beresford & Co.
Germany,	100	F. J. Putz & Co.
France,	100	Charles & Fox
"	20	J. A. Reid
Germany,	60	"

Germany,	30 pkgs.	Phillips & Graves
Holland,	2 pkgs.	J. Owen
Germany,	100	F. W. Berk & Co.

Italy,	9 t.	B. & N. Whvs. Co.
"	5	Acton & Borman
"	23 c.	J. W. Starkey
"	2	Capt. Wood
"	2	G. W. Lagen

Spain,	1,497 t.	Anderson, Anderson, & Co.
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Italy,	300 btl.	L. & I. D. Jt. Co.
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U. States,	2,881 brls.	Fairclough, Dodd, & Jones
"	2,898	Prod. Brokers' Co.
"	200	F. & S. Chiesman & Co.

Portugal,	260 t.	Weston & Westall
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Germany,	50 cks.	F. W. Berk & Co.
"	57	P. Hecker & Co.
"	35	L. & I. Dk. Co.
"	2	Petri Bros.
"	20	J. Hall & Son

Cape,	2 t.	H. Grey, Junr.
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Holland,	150 cks.	J. Matton
Germany,	112	Soundy & Sons
U. States,	150	M. Ashby, Ltd.
Holland,	75	"

Belgium,	1,382	F. Claydon & Co.
Norway,	980	W. G. Taylor & Co.
"	1,730	W. E. Bott & Co.
Germany,	200	W. Friedlaender
Holland,	280	Ross & Deering
Norway,	281	Johnsen & Jorgensen
"	4,228	Tough & Henderson
"	2,825	E. J. & W. Goldsmith

Holland,	150 cks.	J. Matton
Germany,	112	Soundy & Sons
U. States,	150	M. Ashby, Ltd.
Holland,	75	"

Belgium,	1,382	F. Claydon & Co.
Norway,	980	W. G. Taylor & Co.
"	1,730	W. E. Bott & Co.
Germany,	200	W. Friedlaender
Holland,	280	Ross & Deering
Norway,	281	Johnsen & Jorgensen
"	4,228	Tough & Henderson
"	2,825	E. J. & W. Goldsmith

Holland,	150 cks.	J. Matton
Germany,	112	Soundy & Sons
U. States,	150	M. Ashby, Ltd.
Holland,	75	"

Belgium,	1,382	F. Claydon & Co.
Norway,	980	W. G. Taylor & Co.
"	1,730	W. E. Bott & Co.
Germany,	200	W. Friedlaender
Holland,	280	Ross & Deering
Norway,	281	Johnsen & Jorgensen
"	4,228	Tough & Henderson
"	2,825	E. J. & W. Goldsmith

Starch—

Belgium,	60 pkgs.	F. Claydon & Co.
Holland,	820	Little & Johnston
Belgium,	20	H. Johnson & Sons
Germany,	8	L. & I. D. Jt. Co.
Holland,	100	Hernu, Peron, & Co.
Belgium,	120	Leach & Co.
"	150	Sawer, Sons, & Co.
Germany,	200	L. Sutro & Co.
France,	40	E. & T. Pink
Austria,	50	R. G. Hall & Co.
France,	300	A. Dunn
Holland,	101	Phillips & Graves
"	248	Taylor Bros.
Belgium,	56	T. H. Lee
Austria,	30	Melchers, Runge, & Co.
Germany,	500	Seaward Bros.
"	5,940	Horne & Co.

France,	147 bgs.	Beresford & Co.
"	9	Prop. Hay's Wf.
"	385	H. Hill & Sons
Belgium,	371	"
France,	75	A. G. Boyes
Sydney,	550 cks.	Phillips & Graves

Italy,	45 t.	F. C. Devon & Co.
"	25	Johnson & Hooper
"	70	G. Boor & Co.
"	10	H. S. Smith & Co.

Germany,	100 brls.	W. Beard & Son
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Italy,	20 drs.	B. & F. Wf. Co.
Holland,	5 pkgs.	F. C. Devon & Co.
"	3	Kirkpatrick & Co.
"	12	B. & F. Wf. Co.

Savannah,	1,500 brls.	Prod. Brokers' Co., Ltd.
U. States,	1,000	Fairclough & Co.

Sulphur—		
Italy,	45 t.	F. C. Devon & Co
"	25	Johnson & Hoopes
"	25	G. B. Rogers & Co

Belgium,	5 pkgs.	Nelson Bros.
France,	11	Flageolet & Co.
Belgium,	11	Stobbs, Wilson, & Co.
Germany,	10	L. & I. D. Jt. Co.

Germany,	23 cks.	M. Ashby, Ltd.
"	25	D. Storer & Sons
Holland,	5	J. Watts & Sons
France,	45	Phillips & Graves
Holland,	57	W. Harrison & Co.
"	48 brls.	T. & W. Farmiloe
Germany,	50	W. Balchin
"	50	Magee Taylor & Co.

Denmark,	120 pkgs.	W. G. Taylor & Co.
Sweden,	400 bls.	Moreton, Cox & Co.
Belgium,	1,382	F. Claydon & Co.
Norway,	980	W. G. Taylor & Co.
"	1,730	W. E. Bott & Co.
Germany,	200	W. Friedlaender
Holland,	280	Ross & Deering
Norway,	281	Johnsen & Jorgensen
"	4,228	Tough & Henderson
"	2,825	E. J. & W. Goldsmith

Holland,	150 cks.	J. Matton
Germany,	112	Soundy & Sons
U. States,	150	M. Ashby, Ltd.
Holland,	75	"

Belgium,	1,382	F. Claydon & Co.
Norway,	980	W. G. Taylor & Co.
"	1,730	W. E. Bott & Co.
Germany,	200	W. Friedlaender
Holland,	280	Ross & Deering
Norway,	281	Johnsen & Jorgensen
"	4,228	Tough & Henderson
"	2,825	E. J. & W. Goldsmith

Holland,	150 cks.	J. Matton
Germany,	112	Soundy & Sons
U. States,	150	M. Ashby, Ltd.
Holland,	75	"

Belgium,	1,382	F. Claydon & Co.
Norway,	980	W. G. Taylor & Co.
"	1,730	W. E. Bott & Co.
Germany,	200	W. Friedlaender
Holland,	280	Ross & Deering
Norway,	281	Johnsen & Jorgensen
"	4,228	Tough & Henderson
"	2,825	E. J. & W. Goldsmith

Holland,	150 cks.	J. Matton
Germany,	112	Soundy & Sons
U. States,	150	M. Ashby, Ltd.
Holland,	75	"

Belgium,	1,382	F. Claydon & Co.
Norway,	980	W. G. Taylor & Co.
"	1,730	W. E. Bott & Co.
Germany,	200	W. Friedlaender
Holland,	280	Ross & Deering
Norway,	281	Johnsen & Jorgensen
"	4,228	Tough & Henderson
"	2,825	E. J. & W. Goldsmith

Holland,	150 cks.	J. Matton
Germany,	112	Soundy & Sons
U. States,	150	M. Ashby, Ltd.
Holland,	75	"

Belgium,	1,382	F. Claydon & Co.
Norway,	980	W. G. Taylor & Co.
"	1,730	W. E. Bott & Co.
Germany,	200	W. Friedlaender
Holland,	280	Ross & Deering
Norway,	281	Johnsen & Jorgensen
"	4,228	Tough & Henderson
"	2,825	E. J. & W. Goldsmith

Holland,	150 cks.	J. Matton
Germany,	112	Soundy & Sons
U. States,	150	M. Ashby, Ltd.
Holland,	75	"

Belgium,	1,382	F. Claydon & Co.
Norway,	980	W. G. Taylor & Co.
"	1,730	W. E. Bott & Co.
Germany,	200	W. Friedlaender
Holland,	280	Ross & Deering
Norway,	281	Johnsen & Jorgensen
"	4,228	Tough & Henderson
"	2,825	E. J. & W. Goldsmith

Iodine —		
Valparaiso,	62 brls.	A. Gibbs & Co.
Mineral White —		
Fiume,	150 bgs.	
Minium —		
Rotterdam,	16 cks.	
Naphtha —		
New York,	500 dms. 3,000 brls.	
Nitrate —		
Valparaiso,	13 cs.	Permanent Nitr. Co.
Nitre —		
Alexandria,	6 brls.	
Ochre —		
Marseilles,	98 cks.	
Paint —		
Hamburg,	1 cs.	
Boston,	30	Leech, Harrison & Co.
Antwerp,	1 ck.	
Paraffin Scale —		
New York,	360 brls.	Thompson & Bedford
Baltimore,	100	
Phosphate Rock —		
Fernandina,	2,268 t.	
Pitch —		
Boston,	5 brls 1 bx.	T. Turner
Potash —		
Hamburg,	14 cks.	
Montreal,	25 brls.	T. Nickels & Co.
Antwerp,	37 dms.	
Potash Salts —		
Hamburg,	103 bgs.	
Pumice Stone —		
Messina,	9 cks.	
Pyrites —		
Huelva,	2,017 t.	Matheson & Co.
Quicksilver —		
Gijon,	100 flks.	
Rosin —		
Baltimore,	1,600 brls.	
New York,	100	
Pensacola,	44	
Norfolk, Va.,	150	
Salicylic Acid —		
Hamburg,	6 cs.	
Saltpetre —		
Hamburg,	204 pkgs.	
Calcutta,	201 bgs.	Ralli Bros.
"	1,256	
Valparaiso,	2 cs.	
Soap —		
New York,	950 cs.	
Leghorn,	50 bxs.	R. Schumaker & Co.
"	275	Weaver & Sterry
Naples,	160	P. Behrend
N. Orleans,	100	2,898 brls.
Marseilles,	20	
Philadelphia,	3	
Sodium Nitrate —		
Caleta Buena,	2,000 t.	N. Waterhouse & Sons
Starch —		
New York,	900 bgs.	
Hamburg,	368 cs.	
Rotterdam,	25	
Antwerp,	354	J. T. Fletcher & Co.
"	85	
Stearine —		
New York,	25 bds.	
Bordeaux,	60 pkgs.	
Rotterdam,	13 bls.	
Antwerp,	20 cs. 12 bgs.	
Sulphur —		
Catania,	103 t. 15 brls. 290 bgs.	
Tallow —		
New York,	5 brls.	Y. Yonzabo & Co.
Sydney, N.S.W.,	933 cks.	
B. Ayres,	75 pps.	Lever Bros.
"	696 7 hf.-pps.	H. Brown
Tartar —		
Bordeaux,	16 cks.	
Tartaric Acid —		
Leghorn,	5 cks.	
Rotterdam,	2	
Treacle —		
New York,	200 brls.	
Stettin,	214 cks.	Brown, Geveke & Co.

Rotterdam,	2	
Philadelphia,	1,000	
Turpentine —		
Pensacola,	30 brls.	
Savannah,	4,647	L'pool Storage Co.
Varnish —		
New York,	6 brls.	F. Crane Chemical Co.
Baltimore,	5	P. Johnson & Co.
Wood Spirit —		
Hamburg,	4 dms.	
Zinc Oxide —		
New York,	100 brls.	
Antwerp,	10	
Zinc Skimmings —		
New York,	38 pkgs.	
Zinc White —		
Rotterdam,	75 cks.	
Hamburg,	40	

MANCHESTER.

Week ending July 6th.

Aluminous Cake —		
Rotterdam,	49 bgs.	
Antimony Salt —		
Rotterdam,	5 cks.	
Barium Chloride —		
Rotterdam,	12 cks.	
Barytes —		
Rotterdam,	200 bgs.	
Castor Oil —		
Leghorn,	5 cs.	
Caustic Potash —		
Treport,	41 dms.	
Chemicals (otherwise undescribed)		
Rotterdam,	3 cks.	
Colours —		
Hamburg,	2 cs. 2 cks.	
Antwerp,	10	
Rotterdam,	9 3 146 brls.	
Copper Oxide —		
Rotterdam,	1 ck.	
Dyestuffs —		
Extracts	60 cks.	
Fiume,	17	
Sumac		
Palermo,	400 bls.	
Farina —		
Rotterdam,	3,000 bgs.	J. Cowden
Hamburg,	1,500	
Glue —		
Hamburg,	25 bls.	
Rotterdam,	40 bgs.	
Treport,	21 cks.	
Lead Acetate —		
Rotterdam,	15 cks.	
Hamburg,	13	
Litharge —		
Rotterdam,	3 cks.	
Manure —		
Jersey,	124 bgs.	J. Ashworth
"	560	
Mineral White —		
Fiume,	545 bgs.	
Nitrate —		
Rotterdam,	8 cks.	
Ochre —		
Treport,	21 cks.	
Pitch —		
Rotterdam,	1 ck.	
Potash —		
Hamburg,	20 cks.	
Antwerp,	10 dms.	
Pumice Stone —		
Leghorn,	10 cs.	
Sodium Nitrate —		
Rotterdam,	38 cks.	
Starch —		
Fiume,	100 bgs.	
Ghent,	128 cs.	
Antwerp,	70	
Tallow —		
Hamburg,	90 tins.	
Tartar —		
Rotterdam,	20 kgs. 6 cks.	
Tartaric Acid —		
Rotterdam,	32 cks.	
Waste Salt —		
Hamburg,	qty.	
Treport,	13 cks.	

Wood Pulp —		
Sannesund,	5,315 bls.	
Gothenburg,	60	Henderson, Craig, & Co.
"	200	H. Raby & Mather
"	160	Hummel & Co.
"	280	W. G. Taylor & Co.
"	960	Manchester Ship Canal Co.
"	600	
Drammen,	1,000	
Skien,	500	
Rotterdam,	51	
Wood Spirit —		
Hamburg,	9 dms.	
Zinc Ashes —		
Rotterdam,	8 cks.	
Zinc Oxide —		
Rotterdam,	75 brls.	

HULL.

Week ending July 6th.

Alkali —		
Rotterdam,	5 dms.	W. & C. L. Ringrose
Asbestos —		
St. Petersburg,	40 bgs.	Wilson, Sons, & Co., Ltd.
Barytes —		
Antwerp,	208 cks. 290 bgs.	Bailey & Leatham
Bremen,	42	
Rotterdam,	136	W. & C. L. Ringrose
"	22	Hutchinson & Son
Chemicals (otherwise undescribed)		
Rotterdam,	2 cks.	Hutchinson & Son
Christiania,	2 cs.	Wilson, Sons, & Co., Ltd.
Bremen,	1	Veltmann & Co.
Antwerp,	15 pks.	Wilson, Sons, & Co., Ltd.
Hamburg,	20 cks. 1 cs.	"
Cod Oil —		
Bergen,	30 brls.	Wilson, Sons, & Co., Ltd.
Colours —		
Antwerp,	11 cks. 44 pks.	Wilson, Sons, & Co., Ltd.
Rotterdam,	7	Hutchinson & Son
Hamburg,	6 cs. 2	G. Malcolm & Son
Rotterdam,	3 18 103 pks.	W. & C. L. Ringrose
Cryolite —		
Copenhagen,	1 ck.	Wilson, Sons, & Co., Ltd.
Dextrine —		
Stettin,	355 bgs.	Wilson, Sons, & Co., Ltd.
Harlingen,	10	W. & C. L. Ringrose
Dyestuffs —		
Alizarine		
Rotterdam,	58 cks. 16 pks.	W. & C. L. Ringrose
Argols		
Bordeaux,	19 bgs.	Rawson & Robinson
Valonia		
Marathonissi,	244 t. 150 sks.	Kuypers, Ostler, & Scott
Farina —		
Harlingen,	220 bgs.	W. & C. L. Ringrose
Glucose —		
Stettin,	600 bgs.	Wilson, Sons, & Co., Ltd.
New York,	200 brls.	"
Rotterdam,	300	Hutchinson & Son
Glue —		
Stettin,	40 kgs.	Wilson, Sons, & Co., Ltd.
Antwerp,	5 cs.	
Rouen,	20 cks.	Rawson & Robinson
Hamburg,	45 bgs.	Wilson, Sons, & Co., Ltd.
Kaolin —		
Rotterdam,	123 bgs.	Reckitt & Sons
Manganese —		
Rotterdam,	2 cks.	Hutchinson & Son
Minium —		
Antwerp,	8 cks.	Bailey & Leatham

Naphthol —		
Amsterdam,	2 cks.	W. & C. L. Ringrose
Paint —		
New York,	1 brl.	
Permanganate —		
Rotterdam,	5 cks.	Wilson, Sons, & Co., Ltd.
Plumbago —		
Hamburg,	5 cks.	Wilson, Sons, & Co., Ltd.
Potash —		
Rotterdam,	20 cks.	Hutchinson & Son
Dunkirk,	8 dms.	
Quicksilver —		
Liban,	100 tubes.	
Rosin —		
Brunswick,	2,000 brls.	
Saltpetre —		
Hamburg,	79 kgs.	Wilson, Sons, & Co., Ltd.
Soda —		
Antwerp,	8 cks.	Bailey & Leatham
Starch —		
Rotterdam,	88 cs.	Hutchinson & Son
Bremen,	3,898	Veltmann & Co.
Antwerp,	100	Wilson, Sons, & Co., Ltd.
Tartaric Acid —		
Rotterdam,	11 cks.	Hutchinson & Son
Treacle —		
New York,	510 brls.	Wilson, Sons, & Co., Ltd.
Turpentine —		
Helsingfors,	5 cks.	J. Good & Sons
Brunswick,	1,892 brls.	
Ultramarine —		
Rotterdam,	1 ck. 1 cs.	W. & C. L. Ringrose
"	4	Hutchinson & Son
Varnish —		
New York,	6 brls. 2 cs.	Wilson, Sons, & Co., Ltd.
White Lead —		
Antwerp,	23 cks.	Bailey & Leatham
"	14	G. Holmes & Co.
Rotterdam,	34	W. & C. L. Ringrose
Wood Pulp —		
Helsingfors,	219 bls.	J. Good & Sons
"	10	Furley & Co.
"	404	
Zinc Ashes —		
Antwerp,	8 cks.	Wilson, Sons, & Co., Ltd.

GLASGOW.

Week ending July 11th.

Acetate of Lime —		
New York,	204 bgs.	
Philadelphia,	993	
Alkali —		
Rotterdam,	42 dms.	J. Rankine & Son
Alumina Sulphate —		
Rotterdam,	101 cks.	J. Rankine & Son
Aniline —		
Rotterdam,	13 cs.	J. Rankine & Son
Hamburg,	5 20 cks.	
Arachide Oil —		
Rotterdam,	3 cks.	J. Rankine & Son
Barium Sulphate —		
Antwerp,	350 bgs.	
Barytes —		
Rotterdam,	46 cks.	J. Rankine & Son
Boracic Acid —		
Leghorn,	20 cks.	
Castor Oil —		
Leghorn,	50 cs.	
Chemicals (otherwise undescribed)		
Baltimore,	31 cks.	
Rotterdam,	36	J. Rankine & Son
Chrome Ore —		
Macri,	2,200 t.	J. & J. White
Colours —		
Rotterdam,	17 cks. 1 cs.	J. Rankine & Son
Hamburg,	6	
Cottonseed Oil —		
Baltimore,	400 cks.	

Dyestuffs—		
Alizarine		
Rotterdam,	26 cks. 2 cs.	J. Rankine & Son
Cutch		
Rangoon,	3,700 bxs.	158 pcs.
Extracts		
Halifax, N.S.,	80 cks.	
Baltimore,	40 brls.	
Antwerp,	3	
Genoa,	9	
Madder		
Rotterdam,	2 cks.	J. Rankine & Son
Sumac		
Palermo,	650 bgs.	
French Chalk—		
Leghorn,	10 cs.	
Gelstine—		
Hamburg,	3 cs.	
Rotterdam,	5	J. Rankine & Son
Glucose—		
Philadelphia,	200 brls.	
New York,	496	
Glue—		
Rotterdam,	50 bls.	J. Rankine & Son
Antwerp,	10 bgs	
Guano—		
Leghorn,	1 bx.	
Iceland,	826 sks.	
Iron Oxide—		
Montreal,	22 brls.	48 kgs.
Iron Sulphide—		
Rotterdam,	1 ck.	J. Rankine & Son
Kelp—		
Aalesund,	749 sks.	
Mineral White—		
Genoa,	80 bgs.	
Palot—		
New York,	5 brls.	
Leghorn,	15 cks.	
Paraffin Scale—		
Rangoon,	723 bxs.	

Paraffin Wax—		
Baltimore,	100 brls.	
Plumbago—		
Antwerp,	3 bgs.	
Potash—		
Rotterdam,	31 cks.	J. Rankine & Son
Pumice Stone—		
Leghorn,	86 bgs.	10 cs.
Pyrites—		
Huelva,	729 t.	
Resin—		
Baltimore,	800 brls.	W. N. Gemmell & Co.
Salicylic Acid—		
New York,	250	
Hamburg,	1,797	
Soap—		
New York,	310 brls.	
Hamburg,	1 bx.	
Sodium Nitrate—		
Rotterdam,	4 cks.	J. Rankine & Son
Starch—		
Rotterdam,	60 cs. 20 pkgs.	
Montreal,	20 bxs.	J. Rankine & Son
Antwerp,	248	50 bgs.
Stearine—		
Amsterdam,	155 bgs.	
Antwerp,	63	
Treacle—		
Philadelphia,	1,000 brls.	Waddell & Bryson
Charente,	8 qr.-cks.	
Rotterdam,	14 cks.	J. Rankine & Son
Varnish—		
New York,	100 brls.	
White Lead—		
Rotterdam,	29 cks.	
Wood Pulp—		
Christiania,	100 bls.	Alsing & Co.
"	1,206	

Zinc Oxide—		
New York,	110 brls.	
Zinc White—		
Rotterdam,	10 cks.	

TYNE.

Week ending July 6th.

Alumina—		
Copenhagen,	115 cks.	
Barium Chlorate—		
Rotterdam,	300 bgs.	Tyne S. S. Co.
Barytes—		
Rotterdam,	46 cks.	Tyne S. S. Co.
Antwerp,	450 bgs.	"
Colours—		
Hamburg,	1 ck.	Tyne S. S. Co.
Farina—		
Hamburg,	20 bgs.	Tyne S. S. Co.
Glue—		
Hamburg,	20 bgs.	Tyne S. S. Co.
Limestone—		
Antwerp,	3 crts.	Tyne S. S. Co.
Potash—		
Hamburg,	2 cks.	Tyne S. S. Co.
Pyrites—		
Huelva,	3,454 t.	Scott Bros.
Soap—		
Rotterdam,	2 cs.	Tyne S. S. Co.
Starch—		
Rotterdam,	102 cs.	Tyne S. S. Co.
Antwerp,	20	"
Sulphur Ore—		
Lalaja,	688 t.	130 bgs. Bede Metal Co.
Tartaric Acid—		
Rotterdam,	4 cks.	Tyne S. S. Co.
Ultramarine—		
Hamburg,	10 cks.	Tyne S. S. Co.
Wood Pulp—		
Gothenburg,	200 bls.	
Zinc Oxide—		
Rotterdam,	25 cks.	Tyne S. S. Co.
Antwerp,	25 brls.	"

GOOLE.

Week ending July 3rd.

Alkali—		
Calais,	4 cks.	
Barytes—		
Rotterdam,	12 cks.	
Bog Ore—		
Delfsyzhl,	235 t.	
Caoutchouc—		
Boulogne,	2 cs.	
Chemicals (otherwise undescribed)		
Boulogne,	1 cs.	
Dyestuffs—		
Alizarine		
Rotterdam,	78 brls.	
Dyestuffs (otherwise undescribed)		
Rotterdam,	161 cks. 43 cs.	
Boulogne,	14	30
Hamburg,	11	
Glucose—		
Hamburg,	93 cks.	
Calais,	100 bgs.	
Potash—		
Hamburg,	20 cks.	
Dunkirk,	46 dms.	
Saltpetre—		
Antwerp,	85 bgs.	
Hamburg,	42 cks.	
Sulphur Ore—		
Huelva,	1,361 t.	
Waste Salt—		
Hamburg,	270 cks.	

GRIMSBY.

Week ending July 6th.

Caoutchouc—		
Hamburg,	6 cs.	
Chemicals (otherwise undescribed)		
Hamburg,	11 cs.	

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending July 10th.

Alkali—		
Santos,	1 t. 5 c.	£13
Rangoon,	14	5
Alum Cake—		
Calcutta,	77 t. 1 c.	£244
Ammonium Carbonate—		
Dusseldorf,	11 pkgs.	£45
B. Ayres,	11 c.	29
Ammonium Chloride—		
Dusseldorf,	12 cks.	£86
Ammonium Sulphate—		
S. Vincent,	40 t.	£425
Barbadoes,	58	500
Hamburg,	50	500
Valencia,	100	1,000
Rotterdam,	49	490
Antigua,	25	290
Cologne,	136	1,350
Sourabaya,	170	1,700
Samarang,	60	560
Tegal,	51	500
Stettin,	20	200
Arsenic—		
Yokohama,	1 t. 10 c.	£24
Adelaide,	5	18
B. Ayres,	10	160
Boracic Acid—		
Melbourne,	7 cks.	£69
Borax—		
Auckland,	1 t.	£20
Brisbane,	20 cs.	22
Carbonic Acid Gas—		
Wellington,	9 cs.	£84
Bordeaux,	15 tubes	30
Jersey,	56	161
Caustic Soda—		
Melbourne,	1 t.	£16
Fremantle,	10	5 c. 77

Algoa Bay,	5	119
E. London,	1 11	40
Chemicals (otherwise undes.)—		
Durban,	10 cs.	£42
Constantinople,	5 cks.	44
Madras,	2	60
Wanganui,	3 t.	£302
Ghent,	1	11
Stamboul,	4	10 kgs. 37
Galata,	1	16
Chloride of Lime—		
Rio de Janeiro,	9 c.	£25
Citric Acid—		
Natal,	3 c.	£19
St. Petersburg,	3	21
Amsterdam,	2	5 kgs. 44
Hamburg,	1 t.	130
Reval,	1	7
Rotterdam,	1	5 37
Adelaide,	3	18
Brussels,	2 cks. 10	3 128
Santander,	10	62
Cape Town,	3	18
Philadelphia,	10	63
Coal Products—		
Aniline Dye		
Libau,	1 kg.	£13
Melbourne,	1 cs.	12
Aniline Salts		
New York,	34 cks.	£180
Anthracene		
Rotterdam,	150 cks.	£625
Dusseldorf,	378	2,674
Benzol		
Antwerp,	21 brls.	£50
Rotterdam,	130 cks.	511
Carbolic Acid		
Rotterdam,	49 cks.	£175
Rio de Janeiro,	4	12
Hamburg,	18	89
Creosote		
New York,	500 brls.	£188

Pitch		
Brest,	120 t.	£250
Boston,	350 cks.	197
Alexandria,	300 brls.	97
Antwerp,	793	1,468
Tar		
Melbourne,	20 brls.	£17
Batavia,	20 cks.	10
New York,	329	155
Algoa Bay,	550 drs.	33
Tar Oil		
Trelleborg,	1,000 brls.	£459
Coal Products (otherwise undes.)—		
Hobart,	42 pkgs.	£19
Copper Sulphate—		
Lisbon,	43 t. 18 c.	£620
Santos,	1	16
Constantinople,	18	14
Genoa,	20	340
Paris,	40	670
Marseilles,	100	1,700
Leghorn,	22 10	383
Bordeaux,	50	689
Odessa,	5	80
Corrosive Sublimate—		
Lisbon,	1 cs.	£15
Cream of Tartar—		
Wellington,	5 c.	£98
Sydney,	2 t.	150
Lyttelton,	10	36
Adelaide,	6 18	453
Disinfectants—		
Aden,	1 crte. 10 dms.	£13
Calcutta,	1,000 drs.	48
Trinidad,	75 pkgs.	46
Algoa Bay,	14 cs.	20
Sydney,	23	41
Melbourne,	2	21
E. London,	7 c.	24
Colombo,	54	22
Bombay,	11 t. 3	200 161

Manures—		
Libau,	590 t.	£1,100
Trinidad,	90	900
Mobil,	189	7 c. 1,520
Madeira,	18	149
Riga,	369	10 950
Memel,	610	1,315
Malaga,	39	2 375
Nitric Acid—		
Jersey,	20 carboys	£40
Phosphorus—		
Sydney,	23 cs.	£221
Melbourne,	10	102
Madeira,	1	11
Potash Crystals—		
Montreal,	3 cs.	£60
Paris,	1	38
Potash Salts—		
Auckland,	3 t.	£365
Potassium Bichromate—		
Bombay,	20 kgs.	£40
Potassium Chlorate—		
S. Kitto,	1 t.	£47
Philadelphia,	5	828
Potassium Prussiate—		
Lisbon,	1 t.	£70
Genoa,	6 cks.	93
Hamburg,	9	71
Saltpetre—		
Sydney,	2 t.	£47
Rio de Janeiro,	2	5 c. 55
Bahia,	3	65
Lisbon,	42	780
Salts of Soda & Salts of Lime—		
Brussels,	2 cs.	£15
Sheep Dip—		
Hobart,	2 t. 1 c.	£60
Algoa Bay,	1	3
Lyttelton,	2	5
B. Ayres,	24 drs.	10
M. Video,	641	251 cs. 1,014

Ash—			
Burne, 25 t. 2 c.	£100		
Crystals—			
de, 11 t. 1 c.	£21		
n Bicarbonate—			
li, 11 c.	£5		
ad, 2 t. 5	17		
n Carbonate—			
ndon, 5 c.	£8		
n Prussiate—			
li, 5 t. 3 c.	£283		
n Sulphate—			
li, 110 t.	£110		
ium Nitrate—			
ay, 5 cs.	£17		
ir—			
y, 120 brls.	£85		
astle, 8 t.	58		
Bay, 150 cs.	44		
ua, 2 t. 13 c.	8		
ltar, 2 t. 2	12		
uric Acid—			
e Janeiro, 1 t.	£16		
odon, 25 cs.	17		
phosphate—			
400 t.	£900		
300	660		
ric Acid—			
ngton, 6 c.	£39		
stersburg, 3 cks.	4 kgs. 64		
ey, 20	70		
ide, 1 t. 15 c.	173		
ourne, 10	10		

LIVERPOOL.

Week ending July 10th.

sen—			
n, 4 t. 19 c. 1 q.	£332		
z, 3 t. 6 c.	£15		
as, 15	12		
a, 4 11 1 q.	21		
ua, 7 15 1	20		
ndretta, 2 10 1	11		
Francisco, 52	260		
ina Sulphate—			
real, 10 t. 14 c. 2 q.	£56		
inium—			
le, 1 cs.			
onium Carbonate—			
le, 18 c.	£30		
ideo, 1 t. 6 3 q.	40		
eaux, 1	34		
il, 5	9		
onium Chloride—			
ck, 1 t.	£26		
real, 1 9 c.	34		
a, 4	7		
na, 19	37		
Petersburg, 15 9 1 q.	508		
andria, 2	71		
bay, 4 10	160		
phama, 10	12		
co, 10	12		
pa, 3 1	68		
adelphia, 8 7	309		
ao, 3 3	7		
ste, 1 19 1	73		
onium Sulphate—			
agana, 9 t. 19 c.	£100		
bagena, N.G., 6 2 3 q.	61		
oa, 25 12 1	256		
seilles, 30 1 3	300		
adelphia, 76 7 1	794		
Canary, 26 15	274		
ites, 20 3 3	210		
port News, 49 16 2	536		
adoes, 70 3 2	685		
encia, 92 7 2	911		
stos—			
ibay, 1 cs.			
ching Powder—			
ton, 437 cks.			
utta, 167 cs.			
cio, 7 brls.			
ntreal, 5 pkgs.			
ntes, 19			
w York, 690	25		
rkoping, 84			
adelphia, 185			
en, 3			
terdam, 18			
Sebastian, 31			
onto, 10			
a Cruz, 80			
o, 6			
timore, 179			
son, 120			

Bone Ash—			
Marseilles, 9 t. 13 c.	£179		
Boracic Acid—			
Kobe, 1 t. 3 c. 3 q.	£25		
Borax—			
Alexandria, 8 c.	£8		
Antwerp, 7 t. 19 2 q.	160		
Ibrail, 10	9		
Montreal, 1 3	21		
St. John, N.B., 1 4	22		
Yokohama, 3 8 1	63		
M. Video, 2	2		
Mexico City, 11 1	12		
Rotterdam, 30 11	607		
Calcium Chloride—			
New York, 10 t. 4 c.	£22		
Camphor—			
Alexandria, 4 kgs.			
Carbolic Acid—			
Hamburg, 16 t. 5 c.	£808		
Rotterdam, 16 18	596		
Dunkirk, 17	172		
Odessa, 6 2 q.	21		
New York, 4 15	243		
Philadelphia, 2 9	136		
Calcutta, 3 cs.	57		
Castor Oil—			
Sierra Leone, 4 cs.			
Caustic Potash—			
New York, 3 c.	£5		
Caustic Soda—			
Alexandria, 7 dms.			
Antwerp, 34	31 brls.		
Barcelona, 116 18 cks.			
Bilbao, 150 12			
Boston, 25 30 50			
Brantford, 40			
B. Ayres, 56			
Cienfuegos, 20			
Genoa, 207			
Hamburg, 35			
Havana, 60			
Ibrail, 28			
Leghorn, 35			
Melbourne, 60			
Montreal, 29	75 pkgs.		
N. Orleans, 100			
Newport News, 462			
New York, 410	27 bxs.		
Oporto, 78			
Penang, 6			
Pernambuco, 85			
Philadelphia, 185			
Pireus, 40			
Porto Alegre, 50			
Rangoon, 100			
Rio de Janeiro, 68			
Rotterdam, 30	6		
St. Petersburg, 100			
San Francisco, 20			
San Sebastian, 50			
Santos, 113			
Savannah, 24			
Seville, 95	80 brls.		
Sydney, 70			
Tampico, 90			
Valparaiso, 150			
Vera Cruz, 125			
Vigo, 30			
Yokohama, 170			
Baltimore, 223			
Dunkirk, 30			
Fairwater, 70			
Galatz, 5			
Chemicals (otherwise undescribed)			
Genoa, 1 t. 11 c.	£57		
Bombay, 18	13		
Marseilles, 17	29		
Odessa, 1 5	49		
New York, 10	395		
Philadelphia, 17 10 1 q.	443		
China Clay—			
Bombay, 20 cks.			
Calcutta, 26 t. 11 c.			
Montreal, 41			
Pernambuco, 20			
Philadelphia, 200			
Rio de Janeiro, 17	200		
Sydney, 10			
Baltimore, 50			
Barcelona, 10 6			
Boston, 389			
Citric Acid—			
La Guayra, 1 c.	£7		
Coal Products—			
Aniline			
Bombay, 1 cs.			
Aniline Colours			
Montreal, 2 cs.			
New York, 2 kgs.			
Aniline Dyes			
Quebec, 1 ck.			

Aniline Oil			
Philadelphia, 15 dms.			
Barcelona, 2 5 cks. 2 cs.			
Aniline Salts			
New York, 11 cks.			
Boston, 10			
Creosote Oil			
Bordeaux, 50 brls.			
Lisbon, 350			
Naphtha			
Melbourne, 40 dms.			
Sydney, 20			
Naphthaline Colours			
New York, 22 cks.			
Pitch			
B. Ayres, 10 dms.			
Galatz, 15 brls.			
Ibrail, 10			
New York, 28 cks.			
Santos, 6			
Tar			
Galatz, 115 brls.			
Ibrail, 67			
Philadelphia, 150			
Santos, 6 10 hf.-brls.			
Tocopilla, 5			
Tar Salts			
New York, 3 t.	£100		
Cobalt Oxide—			
Rotterdam, 3 c.	£70		
Valencia, 1 3 q.	8		
Seville, 1	25		
Copperas—			
Montreal, 1 t. 8 c.	£2		
Rio de Janeiro, 2 10	6		
San Francisco, 14	24		
Copper Sulphate—			
Rio de Janeiro, 11 c. 3 q.	£9		
Ghent, 4 t. 19 1	80		
Galatz, 7 8	118		
Tampico, 12 10	100		
Nantes, 19 1	289		
Seville, 5	80		
Colombo, 1	16		
Syria, 10	8		
Marseilles, 35 9	537		
Naples, 20 19 1	314		
Venice, 69 3	1,098		
Leghorn, 9 19 2	143		
Bari, 9 5 2	214		
Odessa, 3 1 3	45		
Bordeaux, 603 9 3	9,368		
Dextrine—			
Rio de Janeiro, 2 cs.			
Disinfectants—			
Bombay, 3 q.	£2		
Para, 2 c. 3	4		
Dried Blood—			
Las Palmas, 10 t. 1 c.	£83		
Gd. Canary, 2	10		
Farina—			
Pernambuco, 30 bgs.			
Bombay, 6			
Gelatine—			
New York, 2 cks. 175 bxs.			
Glue—			
Boston, 100 bgs.			
Iquique, 5 cs.			
New York, 100			
Guanó—			
Barcelona, 73 t. 16 c.	£730		
Iron Oxide—			
Genoa, 1 t. 3 c.	£7		
Lime—			
Sapeli, 1 kg.			
Warri, 1			
Magnesia—			
Barcelona, 5 cs.			
San Francisco, 6			
Seville, 24			
Magnesium Chloride—			
Bombay, 15 t. 12 c.	£38		
Magnesium Citrate—			
Montreal, 3 c.	£7		
Magnesium Sulphate—			
Victoria, V.I., 30 kgs.			
Manganese Ore—			
Baltimore, 14 cks.			
Manure—			
Gr. Canary, 2 t.	£21		
Metallic Sodium—			
Rotterdam, 5 t.	£901		
Hamburg, 2	392		
Muriatic Acid—			
Pernambuco, 1 t. 19 c.	£23		
Ochre—			
Lisbon, 10 brls.			
Valparaiso, 24 80 cks. 130 kgs.			
Algoa Bay, 40 dms.			

Paint—	
Amsterdam,	12 kgs. 12 dms.
Bombay,	60
B. Ayres, 56 cs.	
Calcutta,	90
Cienfuegos,	1 ck.
Gambia,	4
Gibraltar,	52
Hamburg,	3 11 5
Havana,	1 12 80
Hong Kong,	54
Ibrail,	4
Jaffa,	2
Lagos,	87 20
La Libertad,	2 1
Lisbon, 7 pkgs.	
Loanda,	10
Maceio,	30
Malta,	12
M. Video, 62 cs.	
Old Calabar,	23
Opobo, 8 pkgs.	
Para,	6
St. John's, N'fld.,	4 328
San Juan,	1
Sierra Leone,	150
Singapore,	24
Talcuano,	2 60
Trieste,	231
Valparaiso,	29
Antofagasta,	22 pkgs.
Antwerp,	1 5
Benguella,	1
Beyrout,	55
Cephalonia,	2
Painters' Colours—	
Boston,	105 cks. 8 kgs.
B. Ayres, 20 cs.	40 8 brls.
Calcutta,	3
Cape Town,	1 20
E. London,	16
Gijon,	3 bxs.
Kingston, Ja.,	16
Lisbon,	4
Malta,	3 10
Manaos,	3
Mayaguez,	5 pkgs.
M. Video,	10
Montreal,	4 cs.
Para,	1 194 31
Philadelphia,	1
Puerto Cabello,	3 cs.
Quebec,	1 bx.
Rotterdam,	100 bgs.
San Juan,	80
Salonica,	2 tcs.
San Francisco,	167 cks.
Valencia,	3 bxs.
Valparaiso,	473 cs. 392 35
Accra,	60
Antofagasta,	5
Baltimore,	31
Barcelona,	1 bx.
Bordeaux,	1 bx.
Paraffin Wax—	
New York,	2 cs.
Pernambuco,	10
Phosphorus—	
Shanghai,	10 c.
Hiogo,	1 t. 5 £100 300
Potash—	
Manaos,	6 c. £10
Potassium Bichromate—	
Seville,	7 c. £14
Maceio,	3 3 q. 8
Bombay,	3 t. 2 129
Potassium Carbonate—	
Genoa,	5 c. £7
Potassium Chlorate—	
Genoa,	2 t. £84
Lisbon,	3 c. 7
Catania,	5 12
New York,	26 5 1,083
St. Petersburg,	17 10 671
Antwerp,	1 5 57
Konigsberg,	1 15
Hiogo,	7 10 277
Oporto,	6 15
Gutujewsky,	15 56
Stettin,	15 34
Yokohama,	10 20
Boston,	7 10 315
Potassium Prussiate—	
Leghorn,	10 c. £30
Rosin—	
Hamburg,	10 brls.
Salt—	
Antwerp,	200 t.
Baltimore,	575

Boston,	200	100 brls.
Calcutta,	5,167	
Ghent,	250	
Hopewell Cape, N.B.,	295	
Lagos,	900	
La Union,		1 cks.
Magellanes,	15	
Manaos,	17	17 c.
Mandiji,	9	
Melbourne,	155	6
Montreal,	722	10
N. Orleans,	900	1
Newport News,	30	
New York,	28	
Old Calabar,	20	
Opobo,	25	
Para,	107	
Rio de Janeiro,	5	12
Rio Grande,	1	
San Francisco,	100	10
Sapeli,		200 bgs.
Shanghai,	9	
Valparaiso,	2	4
Victoria,	20	18
Warri,	2	10
Bakana,	30	2
Bonny,	45	
Bordeaux,	323	6
B. Ayres,		200 cks.
Cameroons,	16	
Degama,	77	
Gijon,	2	10

Salt Cake—

Genoa,	10 t.	£15
Lisbon,	10	15

Saltpetre—

Para,	30 t.	£690
Ceara,	1	23
Almeria,	2	2 c.

Soap—

Algoa Bay,	3,016 bxs	130 cks.	26 bbls.
Barbadoes,	200		
Bombay,	100	8	
B. Ayres,		33	
Calcutta,		10	500
C. C. Castle,	232		
Capetown,	1,233	1	
Constantinople,	3 cks.		
Delagoa Bay,	150 bxs.	20	
E. London,	2,740		
Genoa,	25		
Gd. Bassa,	29		
" Basam,	10		
" Drewin,	40		
Hamburg,		31	
Havre,	130		
Lanzarote,	212		
Las Palmas,	26		
Lisbon,		10	
London,		1	
Macassar,	600	2	
Madras,		56	
Matadi,		40	
Molendo,		87	
Monrovia,		2	
Montreal,		2	
New Orleans,	600	2	30 tcs
" York,			
Old Calabar,	1,554		
Opobo,	1,620		
Philadelphia,		1,001	
Pr. Elizabeth,	500		
" Natal,	1,102	7	
Rangoon,			10 brls.
Rio de Janeiro,		425	
Rouen,			135 pkgs.
St. John's, Nfld.,	100		
St. Kitts,	25		
" Lucia,	200		
Salt Pond,	2,341		
Shanghai,	80		
Sierra Leone,	125	345	
Singapore,	30		
Smyrna,	7		
Talcahuano,	330		
Teneriffe,	17		
Valparaiso,	40		
Alexandria,	2		
Antwerp,	20		
Baltimore,	103		
Bathurst,	250		
Belize,	100		
Cameroons,			
Cartagena, N.G.,			
Colon,			

Soda Alkali—

Callao,	35 brls.	
Genoa,	35	20 cks.
Pr. Elizabeth,		16
Sydney,		10
Volo,		16
Yokohama,		60
Adelaide,		35
Barcelona,		

Soda Ash—

Amsterdam,	48 bgs.	
Antwerp,	700	
Baltimore,	3,773	131 cks. 320 tcs.
Barcelona,		33
Boston,	1,087	248
B. Ayres, 150 kgs.,		2
Calcutta,		102
Ghent,	20	
Hamburg,	100	55
Hioho,		162
Kobe,		587
Kurrachee,		36
Melbourne,		318
M. Video,		25
Montreal,	120	
Newcastle,		136
Newport News, 2000		40
New York,	3,136	218
Para,		2
Philadelphia,	320	92
Piraeus,		30 brls.
Porto Alegre,	100	100
Puerto Cabello,		10
Rio Grande do Sul,	140	
Rio de Janeiro,		550
Rotterdam,	50 bgs.	8
San Francisco,	303	385 tcs.
Singapore,		68
Smyrna,		200 brls.
Sydney,		518
Valleyfield,	120	
Valparaiso,		40
Venice,	39	
Yokohama,		50
Adelaide,	145	
Algoa Bay,		45 kgs.
Barbadoes,	29	
Callao,		75
Cheribon,		8
Copenhagen,	500	
Gothenburg,		8

Soda Crystals—

Bahia,	10 brls.	
Boston,	532	150 bgs.
Iquique,		100 kgs.
Natal,		55
N. Orleans,	117	140 cks.
New York,	112	
Philadelphia,	505	274
St. John's, Nfld.,		10
San Francisco,		220

Sodium Bicarbonate—

Bombay,	645 kgs.	
B. Ayres,	125	
Calcutta,	520	
Christiania,	190	
Constantinople,		30 cks.
Gefle,		8
Genoa,	100	10
Gutajewski,	400	
Hamburg,	120	
Havana,	25	
Hioho,	300	60 bgs.
Johannesburg,		
Kobe,	500	
Koenigsberg,	120	
Lisbon,	40	
La Fallice,		
Marseilles,	126	
Melbourne,	1,000	
Mexico,	80	
Montreal,	225	80
Nantes,	34	
Naples,	100	
Newcastle,	100	
New York,	50	167 brls 10 cks.
Odessa,	206	
Paris,	60	
Piraeus,		10
Riga,	50	
Rotterdam,	25	
San Francisco,	350	
Santos,		20
Seville,	100	20
Singapore,		20
Stettin,	100	20
Sydney,	997	
Tampico,	75	
Warri,	180	
Yokohama,	50	4
Aalborg,		4
Aarhus,	10	
Adelaide,	70	
Algoa Bay,	20	
Amsterdam,	30	
Ancona,	20	
Antwerp,	110	24
Barcelona,	144	
Boston,		50
Copenhagen,	100	10
Delagoa Bay,	25	

Sodium Chlorate—

Antwerp,	4 kgs.	
Gutajewski,		

Hamburg,	134
New York,	20
Rotterdam,	6
St. Petersburg,	175

Sodium Oxide—

New York,	17 cks.
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Sodium Silicate—

Carril,	2 brls.
---------	---------

Sodium Sulphate—

B. Ayres,	5 cks.
Boston,	300 bgs.

Sodium Tartrate—

Montreal,	1 ck.
-----------	-------

Starch—

Pernambuco,	100 bgs.
Piraeus,	30 cks.

Sulphur—

Boston,	300 t.	3 c.	£977
Montreal,	100	1	366
Halifax,	25	1	98
Havana,	10	3 q.	6

Sulphuric Acid—

Mossamedes,	7 c.	£8
Pernambuco,	9	5

Superphosphate—

Gd. Canary,	5 t.	15 c.	£25
-------------	------	-------	-----

Tartaric Acid—

La Guayra,	2 c.	£10
Carril,		11

Treacle—

Antwerp,	10 brls.	25 hf.-pns.
Hamburg,	15	
Rotterdam,	5	
Terneuzen,	20	65
Christiania,		50
Ghent,		40

Turpentine—

Colombo,	20 dms.	
Sierra Leone,	10	
Copenhagen,	6 brls.	

Yarnish—

La Guayra,	1 cks.	
Lisbon,	2	1 ck.
Melbourne,	1	
Rio de Janeiro,	1	
Valparaiso,	36	
Cephalonia,	2	

White Lead—

New Glasgow,	35 kgs.	
Bahia,	10 brls.	

Zinc Chloride—

Halifax,	2 t.	5 c.	3 q.	£37
----------	------	------	------	-----

Zinc Sulphate—

Montreal,	1 t.	1 c.	£3
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MANCHESTER.

Week ending July 10th.

Albumen—

Barcelona,	1 cks.	
------------	--------	--

Alkali—

Alexandria,	50 brls.	
-------------	----------	--

Alizarine—

Rio de Janeiro,	1 kg.	
-----------------	-------	--

Alum—

Alexandria,	50 brls.	
Malaga,	10 cks.	

Ammonium Carbonate—

Gothenburg,	10 kgs.	
-------------	---------	--

Ammonium Sulphate—

Malaga,	10 cks.	
Valencia,	260 sks.	

Aniline Oil—

Antwerp,	2 dms.	
Rotterdam,	2	
Rouen,	5	

Aniline Salts—

Hamburg,	11 cks.	
----------	---------	--

Benzol—

Rotterdam,	29 dms.	
------------	---------	--

Bleaching Powder—

Rio de Janeiro,	4 cks.	
-----------------	--------	--

Boric Acid—

Kobe,	30 cks.	
-------	---------	--

Borax—

Barcelona,	25 brls.	
Seville,	10 cks.	
Yokohama,	100 cks.	

Caoutchouc—

Rotterdam,	2 cks. 2 bls.	
------------	---------------	--

Carbolic Acid—

Treport,	230 bbls. 2 cks. 5 cks.	
----------	-------------------------	--

Caustic Soda—

Malaga,	70 dms.	
Rio de Janeiro,	8	

Chemicals (otherwise undescribed)

Larnaca,	2 cks.	
Antwerp,	1	

Copperas—

Bahia,	3 cks.	
--------	--------	--

Copper Sulphate—

Barcelona,	63 cks.	
------------	---------	--

Creosote Salts—

Danzig,	24 bgs.	
---------	---------	--

Extracts—

Rio de Janeiro,	8 cks.	
Rouen,	22 cks.	

French Chalk—

Bombay,	30 bgs.	
---------	---------	--

Glue—

Antwerp,	10 cks.	
Rotterdam,	31	

Linseed Oil—

Alexandria,	13 brls.	
-------------	----------	--

Magnesia—

Tunis,	2 tcs.	
--------	--------	--

Mineral White—

Rio de Janeiro,	20 bgs.	
-----------------	---------	--

Paint—

Hong Kong,	40 dms.	
Jaffa,	9 cks.	

Painters' Colours—

Rotterdam,	1 bx.	
------------	-------	--

Pitch—

Antwerp,	165 t.	
----------	--------	--

Potassium Bicarbonate—

Bahia,	2 cks.	
Treport,	67 kgs.	

Potassium Bichromate—

Rio de Janeiro,	2 cks.	
-----------------	--------	--

Potassium Chlorate—

Shanghai,	60 kgs.	
Rouen,	15	1 ck.

Salt—

Rio de Janeiro,	4 cks.	
-----------------	--------	--

Soap—

Hong Kong,	3 cks.	
------------	--------	--

Soda—

Rio de Janeiro,	1 ck.	
-----------------	-------	--

Soda Ash—

um,	13	64	210 pks
m,	9	1	
m,	10	2	10 pks.
	4		20
ed Oil—			
am,	98 c.		
gen,	853		
ia,	100		
ia,	109		
g,	69		
erg,	751		
am,	100		
am,	86		
am,	600		
am,	50		
ts (otherwise undescribed)			
	2 cks.		
ia,	14		
ia,	10		
	3 dms.		
g,	5		
rk,	30		
am,	72		
	2 cs.		
	60 bgs.		
rk,	72 cks.		
Oil—			
am,	7 c.		
gen,	45		
und,	67		
ia,	38		
ia,	687		
and,	21		
im,	145		
g,	3		
g,	345		
am,	34		
am,	52		
	20 t.		
urg,	5		
g,	81 bgs.		
White—			
am,	5 pks.		
Colours—			
am,	16 cks.		
y,	80	181 cs	91 pks.
x,	32		
gen,	2		
ia,	3		
ia,	2		
im,	17	2	30 dms.
64 kgs.			
	4		
urg,	36	1	
ors,	8		
g,	44		
g,	1	3 pks	3
erg,	19		
y,	6		
am,	11		
am,	16		
am,	39		
burg,	82	1 cs.	
am,	1		
rus—			
es,	41 cs.		
es,	25		
	8		
y,	46 t.		
y,	146		
	3 t.		
im,	40 cs.		
g,	1 ck.		
am,	210 bgs.		
am,	23 cks.		
am,	60		
am,	18 cks.		
y,	6		
gen,	10		
urg,	200		
ors,	175		
am,	2		
g,	10		
am,	15 cks.		
y,	1	1 cs.	
y,	1	1	

Genoa, 3
Haringen, 1
Marseilles, 4
Wasa, 5

GLASGOW.

Week ending July 11th.

Ammonia—		
Rochefort,	30 t.	
Ammonium Sulphate—		
Hamburg,	50 t.	15 c.
Baltimore,	52	6½
Nantes,	35	
New York,	10	6
Valencia,	90	13½
Bleaching Powder—		
Dunedin,	5 t.	3 c.
Carbolic Acid—		
Rotterdam,	5 t.	10 c.
Germany,	11	
Castor Oil—		
Adelaide,	1 t.	6 c.
Santos,	1	16½
Caustic Soda—		
Dunedin,		£69
Coal Products—		
Alizarine Colours		
Dunedin,		£67
Aniline		£13
Rotterdam,		£30
Benzine		£530
France,		£330
Creosote		19
France,		£45
Creosote Oil		
Danzig,	31 t.	
France,		£120
Christiania,		£117
Naphtha		68
France,		24
Pitch		60
Danzig,	52 t.	126
U.S.A.,		£25
Tar		
Calcutta,		£28
Canada,		98
Madras,		31
Bombay,		105
Montreal,		68
U.S.A.,		
Coal Products (otherwise undes.)—		
Valparaiso,		£25
Dyestuffs—		
Extracts		
Canada,		£28
Barcelona,		98
U.S.A.,		31
Logwood		
Dunedin,		£105
Pt. Lyttelton,		23
Wellington, N.Z.,		23
Dyestuffs (otherwise undescribed)		
Boras,		£42
Gothenburg,		105
Halmstad,		68
Glucose—		
U.S.A.,	10 t.	6 c.
Linseed Oil—		
Cape Town,		15½ c.
Delagoa Bay,	1 t.	11½
Melbourne,	1	1
Auckland,	1	15½
Brisbane,	1	15
Algoa Bay,	7	1
Hokitika,		16½
Wellington, N.Z.,	1	5
Manganese Oxide—		
U.S.A.,		£120
Paint—		
Adelaide,		£51
Delagoa Bay,		38
Natal,		32
Brisbane,		114
Valparaiso,		181
Algoa Bay,		20
Dunedin,		45
Matanzas,		22
Painters' Colours—		
Adelaide,		£85
Melbourne,		86
Stockholm,	2 t.	
Brisbane,		48
Valparaiso,		22
Dunedin,		90
Invercargill,		28
Pt. Lyttelton,		30
Paraffin Wax—		
Cape Town,		£58
Fiume,		32
Bombay,		78

Genoa,	211	
Leghorn,	45	
Valencia,	143	
Potassium Bichromate—		
Higo,	£96	
Rotterdam,	596	
Dunedin,	36	
Genoa,	1,351	
Leghorn,	82	
U.S.A.,	724	
Salt—		
Brisbane,	273 t.	3 c.
Valparaiso,	4	5½
Sheep Dip—		
Napier,	£30	
Wellington, N.Z.,	70	
Soap—		
Antigua,	6½ t.	
Valparaiso,	2	12½ c.
Algoa Bay,	2	4½
U.S.A.,	2	11½
Soda Crystals—		
Valparaiso,	£85	
Sodium Bichromate—		
Bari,	£30	
Genoa,	1,694	
Leghorn,	93	
U.S.A.,	493	
Superphosphate—		
Valencia,	11 t.	16½ c.
Tallow—		
Delagoa Bay,		17 c.
Treacle—		
Norroping,	13 t.	
Stockholm,	22	
Rotterdam,	1	2 c.
Dunedin,		£28
Gothenburg,	9	17½
Bergen,	2	13
Christiania,	18	13½
Drontheim,	11	17½
Yarnish—		
Brisbane,	£23	
White Lead—		
Cape Town,	£40	
E. London,	60	
Johannesburg,	259	
Stockholm,	65	
Brisbane,	115	
Algoa Bay,	27	
Wood Spirit—		
Wellington, N.Z.,	£20	

TYNE.

Week ending July 6th.

Alkali—		
Rotterdam,	3 t.	10 c.
Alum—		
Rotterdam,	10 t.	
Alum Cake—		
Copenhagen,	50 t.	9 c.
Alumina Sulphate—		
Antwerp,	2 t.	
Antimony—		
Barcelona,	1 t.	1 c.
Rotterdam,	2	
St. Petersburg,	5	
Arsenic—		
Genoa,	2 t.	13 c.
Asbestos—		
Ergasteria,		2 c.
Barium—		
Rouen,	10 t.	3 c.
Barytes—		
Hamburg,	150 t.	
Bleaching Powder—		
Genoa,	11 t.	11 c.
Hamburg,	10	3
Christiania,	1	6
Nykjobing,	1	14
Copenhagen,	35	2
Rotterdam,	26	8
St. Petersburg,	45	9
Ancona,	15	6
Borax—		
St. Petersburg,	3 c.	
Calcined Magnesia—		
Genoa,	4 t.	12 c.
Caustic Soda—		
Genoa,	25 t.	10 c.
Pernau,	45	16
Tromsøe,	5	4
Hamburg,	24	14
Antwerp,	38	11
Stavanger,	1	16
Odessa,	5	16
Seville,	23	14
Barcelona,	123	

Rouen,	4	19
Ancona,	9	5
China Clay—		
San Francisco,	5 t.	13 c.
Copperas—		
Odense,		6 c.
Litharge—		
Hamburg,	1 t.	2 c.
Antwerp,	1	3
Montreal,	66	16
Copenhagen,		11
Rotterdam,		8
Magnesia—		
Hamburg,		5 c.
Antwerp,		5
Barcelona,	16 t.	19
St. Petersburg,		10
Rouen,		4
Ochre—		
Montreal,	1 t.	6 c.
Trondhjem,	1	12
Paint—		
Genoa,	9 t.	10 c.
Copenhagen,	1	
Trieste,	1	
Salt—		
St. Petersburg,	5 t.	16 c.
Slag—		
Rotterdam,	945 t.	
Soda—		
Genoa,	19 t.	19 c.
Svendborg,	6	9
Christiania,	10	
Stavanger,	4	19
Venice,	19	17
Constantinople,	5	
Smyrna,	12	3
Randers,	15	
Rotterdam,	27	1
Ancona,	20	13
Soda Ash—		
Antwerp,	10 t.	10 c.
Odense,	3	5
Constantinople,	10	8
Ancona,	8	12
Sodium Hyposulphite—		
Constantinople,	1 t.	2 c.
San Francisco,	10	17
Sulphur—		
Antwerp,	10 t.	
Sannesund,	480	
Copenhagen,	15	
Superphosphate—		
Pernau,	402 t.	8 c.
Tallow—		
Genoa,		12 cks.
White Lead—		
Christiania,		12 c.
Montreal,	20 t.	8
Whiting—		
Montreal,	9 t.	3 c.

GOOLE.

Week ending July 3rd.

Benzol—		
Hamburg,	169 cks.	
Chemicals (otherwise undes.)—		
Ghent,	2 cks.	
Coal Products (otherwise undes.)—		
Antwerp,	2 cks.	4 dms.
Boulogne,	37	
Ghent,	1	
Rotterdam,	55	3 cs.
Dyestuffs (otherwise undescribed)		
Antwerp,	2 cks.	
Ghent,	3	
Manure—		
Boulogne,	56 bgs.	
Hamburg,	222	
Pitch—		
Antwerp,	421 t.	

GRIMSBY.

Week ending July 6th.

Chemicals (otherwise undescribed)		
Dieppe,	2 cs.	
Hamburg,	6 hrs.	
Coal Products (otherwise undes.)—		
Dieppe,	57 cks.	
Hamburg,	1	
Dyestuffs (otherwise undescribed)		
Dieppe,	1 ck.	

PRICES CURRENT.

WEDNESDAY, JULY 17TH, 1895.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.B. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—		L s. d.		L s. d.			
Acetic, 25 % and 40 %	per cwt.	6/	8 9/3	Lime, Acetate (brown)	per ton	5 12 6	
Glacial	"	40/-		" (grey)	"	8 5 0	
Arsenic S.G., 2000°	"	0 15 0		Magnesium (ribbon and wire)	per oz.	0 2 3	
Fluoric	per lb.	0 0 3 3/4		" Chloride (ex ship)	per ton	2 7 6	
Muriatic (Tower Salts), 30° Tw.	per bottle	0 0 10		" Carbonate	per cwt.	1 17 6	
(Cylinder), 30° Tw.	"	0 3 0		" Hydrate	per ton.	17 0 0	
Nitric 80° Tw.	per lb.	0 0 1 3/4		" Sulphate (Epsom Salts)	per ton	3 0 0	
Nitrous	"	0 0 1 3/4		Manganese, Sulphate	"	17 0 0	
Oxalic	nett	0 0 3 3/4		" Borate	per cwt.	2 15 0	
Phosphoric, 1750°	"	0 1 1		" Ore, 70 %	per ton	4 5 0	
Picric	"	0 0 10		Methylated Spirit, 61° O.P.	per gallon	0 1 10	
Sulphuric (fuming 50 %	per ton	15 10 0		Naphtha (Wood), Solvent	"	0 3 0	
" (monohydrate)	"	5 10 0		" Miscible, 60° O.P.	"	0 2 10	
" (Pyrites, 168°)	"	3 0 0		Oils:—			
" 150°	"	1 5 0		Cotton-seed	per ton	18 10 0	
" (free from arsenic, 145°)	"	1 6 0		Linseed	"	23 0 0	
Sulphurous (solution) S.G. 1025°	"	3 0 0		Petroleum, American	per gallon	0 0 6 1/2	
Tannic (pure)	per lb.	0 1 0		Stearine	per ton	24 0 0	
Tartaric	"	0 0 10 3/4		Phosphorus (yellow)	per lb.	0 2 2	
Arsenic, white powdered	nett	per ton	15 5 0	" (red)	"	0 2 8	
Alum (loose lump)	"	"	4 12 6	Potassium (metal)	per oz.	0 3 7	
Alumina Sulphate (pure)	"	"	4 12 6	" Bichromate	nett	per lb.	0 0 4 1/2
Aluminoferic	"	"	2 7 6	" Carbonate, 90% (ex ship)	per ton	16 15 0	
Aluminium	per lb.	0 2 10		" Chlorate	per lb.	0 0 4 1/2	
Ammonia, Anhydrous	"	0 1 3		" Cyanide, 98%	"	0 1 6	
" 880=28° B.	per lb.	0 0 3		" Hydrate (Caustic Potash) 80/85 %	per ton	21 5 0	
" =24° B.	"	0 0 2 1/4		" (Caustic Potash) 75/80 %	"	19 15 0	
" Carbonate	nett	"	0 0 3 3/4	" (Caustic Potash) 70/75 %	"	19 10 0	
" Muriate	per ton	21 10 0		" Nitrate (refined)	per cwt.	1 1 6	
" (sal-ammoniac) 1st & 2nd	per cwt.	39/- & 37/-		" Permanganate	per cwt.	2 17 6	
" Nitrate	per ton	40 0 0		" Prussiate Yellow	per lb.	0 0 7 1/2	
" Phosphate	per lb.	0 0 8 1/2		" Sulphate, 90 % (ex ship)	per ton	9 15 0	
" Sulphate (grey) London	per ton	9 12 6		" Muriate, 80 % (do.)	"	8 10 0	
" (grey) Hull	"	9 8 9		Silver (metal)	per oz.	0 2 6 1/2	
Aniline Oil (pure)	per lb.	0 0 5 1/4		" Nitrate	"	0 2 0	
Aniline Salt	"	0 0 4 3/4		Sodium (metal)	per lb.	0 2 11	
Antimony	per ton	32 0 0		" Carb. (refined Soda-ash) 48 %	nett	per ton	4 15 0
" (tartar emetic)	per lb.	0 0 7		" (Caustic Soda-ash) 48 %	"	3 17 6	
" (golden sulphide)	"	0 0 10		" (Carb. Soda-ash) 48%	"	3 15 0	
Barium Chloride	per ton	6 7 0		" (Alkali) 58 %	"	3 7 6	
" Carbonate (native)	"	3 5 0		" (Soda Crystals)	"	2 2 6	
" Sulphate (native levigated)	"	45/- to 75/-		" Acetate (ex-ship)	"	14 0 0	
Bleaching Powder, 35 %	nett	"	7 0 0	" Arseniate, 45 %	"	11 0 0	
" Liquor, 7 %	"	"	3 10 0	" Chlorate	per lb.	0 0 6 1/2	
Bisulphide of Carbon	"	"	13 0 0	" Borate (Borax)	net, per ton.	18 10 0	
Chromium Acetate (crystal)	per lb.	0 0 6		" Bichromate	per lb.	0 0 3 1/2	
Calcium Chloride	per ton	2 2 6		" Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	9 7 6		
China Clay (at Runcorn) in bulk	"	15/- to 30/-		" (74 % Caustic Soda)	"	8 7 6	
Coal Tar Products and Dyes:—				" (70 % Caustic Soda)	"	7 10 0	
Alizarine (artificial) 20 %	nett	per lb.	0 0 8	" (60 % Caustic Soda)	"	6 10 0	
Magenta	"	"	0 3 9	" (60 % Caustic Soda, cream) (f.o.b.)	"	6 7 6	
Anthracene, 30 % A, f.o.b. London	per unit	per cwt.	0 1 0 1/2	Bicarbonate	"	6 10 0	
Benzol, 90 % nominal	per gallon	0 1 0		Hyposulphite	"	5 10 0	
50/90	"	"	0 0 11 1/2	Manganate, 30%	"	16 0 0	
Carbolic Acid (crystallised 40°)	per lb.	0 0 6		Nitrate (95 %) ex-ship Liverpool	per cwt.	0 7 10 1/2	
(crude 60°)	per gallon	0 1 8		Nitrite, 98 %	per ton	29 0 0	
Creosote (ordinary)	"	0 0 1 1/2		Phosphate	"	14 10 0	
" (filtered for Lucigen light)	"	0 0 2		Silicate (glass)	per ton	4 10 0	
Crude Naphtha 30 % @ 120° C.	"	0 0 5 1/2		" (liquid, 100° Tw.)	"	3 10 0	
Grease Oils, 22° Tw.	per ton	2 10 0		Stannate, 40 %	per cwt.	3 2 9	
Pitch, f.o.b. Liverpool or Garston	"	1 13 0		Sulphate (Salt-cake)	per ton.	0 16 6	
Solvent Naphtha, 90 % at 160°	per gallon	0 1 0		" (Glauber's Salts)	"	1 5 0	
Lucigen" and "Wells Oils	"	0 0 2 1/2		Sulphide	"	8 0 0	
Copper	per ton	44 5 0		" Sulphite	"	5 3 0	
" Sulphate	"	15 10 0		Strontium Hydrate, 100%	"	8 10 0	
" Oxide (copper scales)	"	41 10 0		Sulphocyanide Ammonium, 95 %	per lb.	0 0 6 1/2	
Glycerine (crude)	"	16 10 0		" Barium, 95 %	"	0 0 4 1/2	
" (distilled S.G. 1250°)	"	42 10 0		" Potassium	"	0 0 7	
Iodine	nett, per oz.	0 0 9		Sulphur (Flowers)	per ton.	5 13 0	
Iron Sulphate (copperas)	per ton	1 5 0		" (Roll Brimstone)	"	5 0 0	
" Sulphide (antimony slag)	"	2 0 0		" Brimstone: Best Quality	"	3 12 6	
Lead (sheet) for cash	"	11 12 6		Superphosphate of Lime (26%)	"	2 7 6	
" Litharge Flake (ex ship)	"	13 5 0		Tallow	"	23 0 0	
" Acetate (white ")	"	24 0 0		Tin Crystals	per lb.	0 0 5 1/2	
" " brown ")	"	14 10 0		" English Ingots	per ton	67 10 0	
" Carbonate (white lead) pure	"	16 0 0		Zinc (Spelter)	"	14 6 3	
Nitrate	"	18 15 0		" Chloride (solution, 100° Tw.)	"	0 7 7	

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Notices.

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communications for the Editor, if intended for insertion in the next week's issue, should reach the office not later than Tuesday evening.

Advertisements.

paid Advertisements of Situations Vacant, Premises on Sale or To be Let, Miscellaneous Wants, and Specific Articles for Sale by Private Contract are charged in the *Chemical Trade Journal* at the following rates:—

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Advertisements intended for insertion in the current week's issue should reach the office by Thursday morning at the latest.

CURRENT TOPICS.

TECHNOLOGY.

THERE is no doubt that the City and Guilds of London Institute affords through the agency of its annual examinations one of the best genuine tests of the efficiency of our systems of teaching technology.

We are much more disposed to favour a scheme comprising a few first-class technical schools for the dissemination of true technical education, than one which includes the establishment of a number of certainly good, but by no means perfectly equipped schools. Technical schools are most wanted in industrial centres, and these, though in the plural number, are not numerous. Really good schools in the chief centres can cater for the whole district, which means their being well supported, thus enabling salaries to be paid which command first-rate, highly-experienced heads in the various departments.

Unity of purpose is an accepted attribute of success, but in the spread of technical education, a dozen or more struggling institutions can never, even with the best of intentions, attain such good results as a few central, flourishing, well-funded schools.

The effect of municipalising technical schools, as at Manchester and Birmingham, for instance, with a view to strengthening the financial position of the schools, has yet to be proved by a trial of years. The results as far as Manchester is concerned are, however, perfectly satisfactory so far.

According to the results of the recent City and Guilds examinations, the Manchester Municipal Technical School stands once more the first in the country. Those who are acquainted with the amount of hard work that is done to make the Manchester school a success, and the earnestness with which that work is prosecuted, will know that the school fully deserves to occupy the prominent position which it holds. Among the successes we are pleased to note more particularly that a first honours prize and silver medal, and a second ordinary prize and bronze medal, have been awarded in alkali manufacture to two students from this school, and also a first honours prize and silver medal in cotton dyeing. Such results convey more as to the efficiency of the school than we could in many words. We trust that next year we shall have quite as good, if not even a better, record to chronicle.

RIVAL EXPLOSIVE MANUFACTURERS.

The preliminary skirmish in what promises to be an interesting patent case has taken place this week, in the Chancery Division, before Mr. Justice Kekewich.

The Lancashire Explosives Co., Ltd., brought an action against the Roburite Explosives Co., Ltd., for infringing the patent rights of the former Company, in connection with the manufacture of an explosive. A somewhat formidable array

of expert evidence was called for the plaintiffs, including such a leading light as Sir Frederick Abel, who stated that he had examined the plaintiffs' specification and the prior specifications, and as far as his evidence went appears to have deemed the plaintiffs case a sound one. After his recent special experience in connection with cordite, such an opinion might naturally be expected to carry weight.

This opinion was, however, further backed up by the testimony of four other experts, who showed among other things that the chemical composition of the defendants' explosive was similar to that of the plaintiffs'. Counsel for the defendants took a different line of action altogether. He called no evidence, but contented himself with contending that there was nothing novel in the patent of the plaintiffs, and that what they set forth was merely common knowledge long prior to the taking out of the letters patent.

In spite of the evidence of even Sir F. Abel, the Court took the same view as the defendants' counsel, and entered judgment for them with costs. Such are the outlines of the case. It is not within our province to pass any opinion on it at the present stage of the proceedings, as permission was given to appeal, but when the litigation is completed we may have something to say.

TIPS FOR TRADERS.

MERCHANTS dealing with the Levant should avoid direct relations with local houses, and employ a European agent on the spot. All orders should be in writing and detailed. Care should be taken, however, to faithfully adhere to the detailed instructions given. In cases of non-payment use threats and every other possible means, but avoid the law courts. A bad composition will prove better than the law courts.

DISTILLING machinery used in the Brazils is almost always of German and French origin, yet the British manufacturer has the advantage in the matter of freight. For cotton and textile machinery English plant is almost entirely used.

IRON ORE abounds at Labrador. Thick beds are found in conjunction with jasper. The recent geological survey has opened up large new beds.

SALT is the principal mineral product of Central Persia. Iron, coal, lead, copper, and sulphur are found, but the mining of these ores is in a very backward state.

MATCHES, which are a monopoly of the French Government, yielded an income of 27,096,172 francs last year. This was an increase of 557,937 francs.

TARIFF CHANGES.

There are from time to time many alterations in the Customs regulations abroad, which it is well for those trading in chemicals, oils, paints, and raw materials to be acquainted with. The following are some of the most recent changes of interest to the foregoing:—

OXIDE OF ZINC, pure, for pharmaceutical purposes and not to be used as a pigment, is admitted into Russia now at a duty of 1 rouble 50 copecks per 36 lbs. gross.

PETROLEUM imported into B. Honduras, notwithstanding any recent changes, is still to pay a duty of 3 cents if flashing at or above 130°. Anything under is to pay 6 cents per gallon.

FERTILIZERS AND MANURES are also, in spite of any recent tariff changes, to be admitted *duty free*.

CREAM OF TARTAR is now subject to a modified duty when imported into Russia, viz., when raw 60 copecks per 36 lbs.; semi-refined (not in powder and with natural tinge) 75 copecks.

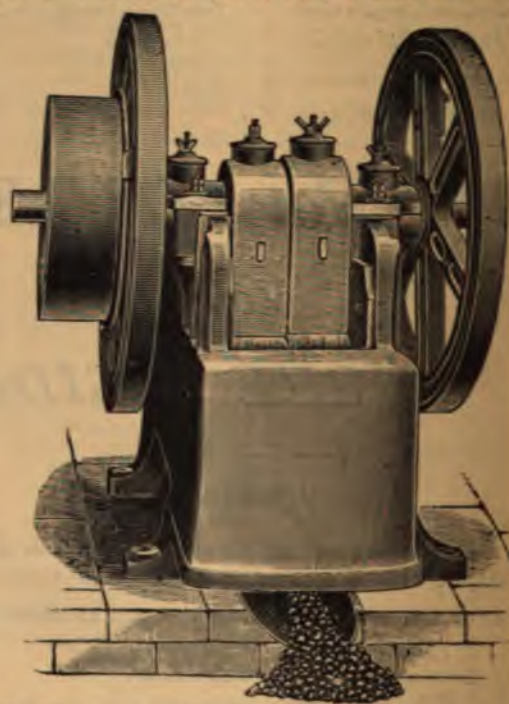
MANURE DISTRIBUTORS, elevators, presses, and such like agricultural machines are now imported into Tunis free of any duty.

CHLORIDE OF LIME is charged wharfage at Victoria at the rate of 3d. per ton of 40 cubic feet. Fancy soap dues range from 2d. per lb.

THE IMPROVED "SAMSON" CRUSHER

THE machine here illustrated has been designed for reducing substances (such as cements, corrolites, slag, phosphates) to fine granular pieces at one operation. Heretofore, the material have had to be passed through several machines before they could be reduced to $\frac{3}{4}$ in. cubes, and less, which machines were costly and heavy. This machine, however, is made so that the material introduced in its rough state, and comes out finished as desired, without any re-handling or loss of time and labour, thus saving the money.

The machine consists of a massive iron frame cast all in one piece into which are cast two main bearings fitted with caps, run in anti-friction metal, in which revolves a turned steel shaft with eccentrics set opposite each other. On these are hung two large stocks with anti-friction bearings and renewable bushes secure taper cotters. The bottom part of the jaw stock is fitted



with a renewable chilled crushing face upon which are cast chilled teeth of special form, which work against teeth on a similar face fitted in front of the machine. Two heavy fly wheels are keyed-on to the shaft, one of which carries the main driving pulley.

The material to be broken is placed between the jaws of the machine, where it is split in two by their backward and forward motion, which is very slight at the top. It then passes down, gradually being further crushed and ground the lower it goes, until it appears at the outlet where the teeth are very fine. The action is a continuous rubbing one.

The machine is constructed upon Hall's well-known "M. Action" principle, which enables every part to be equally balanced, one jaw coming down while the other is being lifted up, thus saving a large percentage of power, since each jaw is returned by the motion of the other by an arrangement of draw-back levers underneath of the machine.

Mr. Hall of 55, Norfolk Street, Sheffield, is the inventor and

NEW DRY CELL.—M. Regnault has recently devised a dry cell consisting of a carbon vessel, in the bottom of which is placed a mixture of acid mixed up with gelatinous silica, this latter possessing the property of absorbing sixty times its volume of water. On the top of this a disc of porous earthenware is laid which supports a zinc rod immersed in a second layer of gelatinous silica, this time without the addition of the chromic acid. The cell is claimed to be very cheap for its power.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Manufacture of Soap. E. S. Wilson and Stewart Bros. and Spencer. 13,119. July 8.
 Manufacture of Cyanides. S. Trivick. 13,120. July 8.
 Evaporating Apparatus. J. Foster. 13,134. July 8.
 Apparatus for Decomposing Chlorides of Sodium and Potassium. J. S. Rigby. 13,158. July 8.
 Improvements in Filter Presses. A. L. G. Dehne. 13,160. July 8.
 Manufacture of Sulphuric Acid and Bye-products, with Apparatus therefor. J. D. Darling. 13,171. July 8.
 Manufacture of Paris Green. C. M. Fielsticker. 13,210. July 9.
 Manufacture of Oil Gas. F. Mayer. 13,230. July 9.
 Manufacture of Starch. C. Hellfrich. 13,244. July 9.
 Apparatus for the Electrolysis of Salts, Oxides, etc. J. B. Torres. 13,255. July 9.
 Insecticides. E. Chedaille and F. Lasseaux. 13,271. July 9.
 Improved Steamtrap. H. Drysdale. 13,296. July 10.
 Construction of Oil Cake Presses. H. Lambert. 13,332. July 10.
 Treating Peat. E. Stauber. 13,333. July 10.
 Electro-deposition of Aluminium Alloys. C. Oppermann. 13,425. July 12.
 Electrolytical Production of Zinc from its Ores. Siemens Bros. & Co., Ltd. 13,434. July 12.
 Obtaining Carbonic Acid Gas. W. Raydt. 13,456. July 12.
 Manufacture of Chlorine from Hydrochloric Acid Gas. T. T. Best, A. Kay, and J. Brock. 13,461. July 12.
 Improvements in Centrifugal Machines. G. Pott. 13,501. July 13.
 Improved Hydraulic Oil Presses. H. Greenwood. 13,513. July 13.
 Precipitating Gold from Solutions used to Extract the same. M. Crawford. 13,537. July 13.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

Improvements in or Relating to Condensing Towers. E. J. Barbier, 19, Rue Louis le Grand, Paris. Eng. Pat. 14,014. July 20, 1894.

The patent deals with the condensation of acid vapours, such as sulphurous, sulphuric, nitric, and hydrochloric acids, and also with the condensation of metallurgical fumes. The towers are circular, and fitted at will with central cooling shafts, through which air circulates. The internal space is packed with truncated conical cells, open at one end, and perforated at the other. If necessary, a washing liquid can be used to pass down the towers, through which the gases to be condensed pass in the way usually employed in the condensation of hydrochloric acid. The condensed products are collected at the bottom of the towers, and drawn off into suitable receptacles. When used for condensing arsenical and other fumes, the towers have from time to time to be unpacked, and the condensed products recovered. Three drawings show the arrangement of the towers, method of packing, and details of the packing cells, two forms of which are illustrated.

Improvements in Coke Ovens, and in the Method of Removing and Utilizing the Products of Combustion from such Coke Ovens. H. A. Allport, Dodworth Grove, Barnsley, and A. Crossley, Talywain, near Pontypool, Monmouth. Eng. Pat. 22,452. November 20, 1894.

It has already been proposed to remove the bye-products from coke ovens by exhausting the ovens from the bottom, also by forcing air into the tops of the ovens. Three patents for the latter method, including subsequent treatment, have been granted to Chambers and Smith, namely: 4,708, 1884; 7,358, 1885; and 7,424, 1889. The patent in question proposes to utilize both methods simultaneously, employing Chambers and Smith's method of treatment or an equivalent. In this way it is claimed that small or inferior coal can be used, and the bye-products are obtained without affecting the quality or quantity of the coke produced.

An Improved Process of and Apparatus for the utilization of the Smoke and Products of Combustion from Furnaces. E. Edwards, 65, Chancery Lane, London (communicated by M. Richter Mildenau, Bohemia). Eng. Pat. 9,620, May 15, 1895.

The combustion of smoke from boiler furnaces is accomplished by means of a specially designed smoke consumer, situated in, and extending the full width of the flue behind the furnace. This combustion apparatus consists of an arrangement of pipes which are heated by a special non-smoking fuel, and convey water and air. The pipes so heated consume the smoke and acquire further heat. The heated feed water is passed to the boiler, while the heated air is conveyed by pipes underneath the fire-place where, by a special contrivance, it is admitted either above or below the bars. The apparatus claims special advantages

owing to the continual introduction of heated air for the purpose of combustion, in conjunction with the heating of the feed water. The drawings show the construction of the smoke consumer in the flue, the details of the air and water conveying pipes.

A New or Improved Carbonizing and Drying Machine. G. Tolson, E. Tolson, Bradford Road, Dewsbury. Eng. Pat. 15,787, August 20, 1894.

The chief object is the destruction of vegetable matters in rags, wool, &c., by carbonization. The apparatus consists of a horizontal revolving, perforated cylinder, enclosed in an air-tight cylinder, so as to leave an annular space between the two, the whole being mounted on hollow trunnions. By means of valves, hot flue gases and carbonizing gases can, at will, be admitted into the perforated cylinder, and exit into the annular space just referred to, which is exhausted by a fan at the opposite end of the cylinder. In operating, the materials to be treated are first well heated by furnace gases, and subsequently treated with the carbonizing gases. By allowing the latter to escape through the perforated cylinder the materials are not scorched or browned as would otherwise be the case. A drawing in longitudinal section clearly shows the general arrangement of the apparatus.

Improvements in or relating to Scrubbing or Purifying of Gases and Apparatus therefor. F. L. Slocum, Reynolds' Street, Pittsburgh, U. S. Eng. Pat. 6,158, March 25, 1895.

This patent aims at increasing the efficiency of apparatus for scrubbing gases, more particularly coal gas. The chief claim consists in forcing the gas through a series of perforated discs, set about $\frac{1}{4}$ in. apart, that the perforations are not in line, and mounted on a horizontal revolving shaft, the whole being enclosed by a suitable casing with inlet and outlet ports. The discs in revolving, dip into a suitably absorbent liquid, forming a film joint between the edges of the plates and casing. The gases are forced through the plates with sufficient velocity to break up the globules of tar and other extraneous matter. It is also claimed that by preventing the diffusion of the purified gas into those which are less purified, a more perfect scrubbing is effected. Four drawings show the arrangement of the plates, casing, and revolving shaft, with details of the bearings for the latter.

RESULTS OF TECHNOLOGICAL EXAMINATION

IN the number of medals and prizes gained at the recent technological examinations held by the City and Guilds of London Institute, Manchester Municipal Technical School again stands first in the country. The particulars of the awards are as follow:—Ashwell, Emily, dressmaking, third prize of £2. and bronze medal; Bamford, Ellen, dressmaking, fourth equal prize of £1. and bronze medal; Clarke, J. H., alkali manufacture, first honours prize of £2. silver medal; Etchells, Ernest, rail-carriage building, first ordinary prize of £2. and silver medal; Fox, Frank, cotton dyeing, ordinary prize of £1. and silver medal; Hacking, J. H., rail-carriage building, first honours prize of £3. and silver medal; Hague, J. A. R., cotton dyeing, first honours prize of £2. and silver medal; Hampton, Reginald, plasterers' work, third ordinary equal prize of £1. 10s. and bronze medal; Higson, Kate, dressmaking, fifth equal prize of 10s. and bronze medal; Hill, Thomas C., calico and linen printing, first ordinary prize of £1. and silver medal; Hill, William, calico and linen printing, second ordinary equal prize of £1. and bronze medal; Holden, Arthur, cotton weaving, first ordinary prize of £2. and silver medal; Hollingworth, E. M., mechanical engineering, third ordinary equal prize of £1. 10s. and bronze medal; Jones, Samuel, electrical metallurgy, third ordinary prize of bronze medal; Jubb, Albert, metal-plate work, second ordinary prize of £2. and bronze medal; Lowe, Frank H., alkali manufacture, second ordinary prize of £1. bronze medal; M'Leod, Robert S., electric lighting and power (section 2), first honours prize of £3. and silver medal; Mordy, A., dressmaking, fourth equal prize of £1. and bronze medal; Myr Hermann B. L., cotton weaving, second ordinary equal prize of £1. and bronze medal; Muth, Hermann B. L., cotton spinning, third ordinary equal prize of £1. and bronze medal; Myers, William, electrical weaving (division 2), first ordinary prize of £2. and silver medal; Pettigrew, Robert, cotton and linen bleaching and finishing, first ordinary equal prize of £1. and silver medal; Prüssmann, Carl A., electric lighting and power (section 3), second honours prize of £3. bronze medal; Wood, Edgar, plasterers' work, third ordinary prize of 10s. and bronze medal. J. A. Clarke, Kate Higson, A. Jubb, and F. H. Lowe are external students. The net award made to students of the school is therefore £32. 10s. in prizes, and ten silver and eleven bronze medals. C. H. Wayte, who has gained a first ordinary prize of £2. and a silver medal in iron and steel manufacturing at Middlesbrough High School, and G. E. Holden, who has been awarded the third ordinary prize of a bronze medal in cotton dyeing at Middleton Technical School, were students at the Manchester Municipal Technical School last session, 1893-4.

Paper-Makers' Column.

DYEING PAPERS WITH ANTHRACENE DYES.

Now that the anthracene colours are being prepared much more easily than the aniline dyes, their use in the manufacture of coloured papers is becoming more frequent every day. Their application, however, is a little different to the aniline dyes. They require to be developed directly upon the fibre by means of mordants. The cheapest mordant for fixing the anthracene colours on the pulp in the beating machine is alum, which must be absolutely free from iron, and tartrate of potash. The method of using these is simple. A quantity of alum or ammonia alum, equivalent to 3 per cent. on the weight of paper pulp in the engine, is dissolved in hot water, and there is added to this a further quantity of tartrate of potash equal to two-thirds of the weight of the alum. When these salts are dissolved they are poured into the engine. After thoroughly circulating and mixing the stuff, the required quantity of anthracene colour is added. It depends upon the shade or depth of colour required, and will vary from ¼ lb. to 5 lbs. of colour to the 100 pounds of the dry paper.

In order to develop the colour and dye the fibre, the contents of the engine are gradually heated to from 60 to 70°C., which is best done by injecting steam into the mass as it circulates. After the dye is become fixed and the water in the engine clear, the stock may be sized previous to being sized. In this, as in all other matters relating to the dyeing of paper stock, considerable judgment must be exercised by the operator to get the exact shade or tone required, and to fix the dye of the colour upon the fibres. In some cases the dyed "stock" may be let down into the draining chests, and then allowed to drain and be partly washed; afterwards being transferred in the usual way to the beating engines. In such cases the dyeing can be performed in a breaker. Anthracene dyed stock can be brightened and improved by the addition of small quantities of the anilines.

For colouring paper while running over the machine as in the manufacture of flowered-papers the web when still moist is first passed through a trough containing a solution of alum, then through a second trough containing the tartrate of potash, and finally through the third vessel containing the anthracene colour. The proportion of colour to water is 1 to 10. Squeezing rolls are used after each trough by the aid of which the excess of fluid is pressed from the web. The speed of travel must not be too quick in order to allow sufficient time for the fluids to penetrate the texture of the sheet and to allow the fibres to be properly dyed and the colour to be fixed. Light shades of great brightness can be prepared in this way. In purity and brightness of tone rival those made from aniline colours.

COLOURING PAPERS WITH WASTE SULPHITE CELLULOSE LIQUORS.

The problem to utilise in some way the waste liquors from the waste wood pulp manufacture has occupied chemists for some years. Various attempts have been prompted by a desire to obtain useful and profitable products, but the indefinite character of the composition of the organic bodies contained in the liquors, and their complex character have made a solution of the problem more ordinarily difficult. So far neither bodies of a simple nor profitable nature have been isolated from these liquors, but, owing to their complex character when in the concentrated form, the idea of a dextrine substitute has been uppermost in the minds of investigators.

Part from the attempts to obtain useful products, the necessity has arisen in many localities to deal on an extensive scale with these liquors instead of running them off into the nearest watercourse, to avoid pollution. The magnitude of such a treatment, in a sulphite factory of large size, is very great, the liquors being dilute, acid in character, and possessing a somewhat disagreeable smell.

Dr. A. Mitscherlich has been one of the first to deal with this question, and he has taken out in his native country and in England many patents embodying processes for the preparation of useful products from these waste lyes. Recently he has established a works in Germany for the manufacture of a "size" for papermakers which is prepared from an animal gelatine or glue in combination with the sodium and closely allied bodies in the waste sulphite liquors, the size being sold in a concentrated condition. It is claimed that this size imparts to the paper similar properties to animal size, and can be used in the same way as ordinary resin soap, namely, by precipitation with alum. The size itself is a yellow fluid, of a neutral reaction, and is diluted in any proportion with water. The percentage of sizing agent corresponds to its specific gravity. For every increase in the percentage of size the percentage of size increases 1.0%. The actual amounts of size in any solution can be estimated by precipitation with alcohol, filtering off the precipitate through a weighed filter, after shaking, and finally drying in the air and weighing.

When a diluted solution of this size is treated with a solution of alum or sulphate of alumina, a white flocculent precipitate of a cheese-like character is thrown down, which is soluble in alkaline solutions, and especially in solutions of soda. When, therefore, the size is precipitated in the beating engine with alum, as in resin sizing, the precipitate coats the film, binding them together, and, owing to its adhesive nature, attracts and holds fast the loading materials, such as china clay and other mineral matters, and mechanical wood-pulp. Although the "size" is dark coloured, it has no influence upon the paper-pulp provided the alum is free from iron.

Printing papers can be sized to any desired extent with this size, and they claim to effectually resist printing inks passing through their texture. It has been found, however, that the best results for writing papers are obtained when the size is mixed in the engine with resin size, varying in the proportion of from 4 : 1 to 1 : 1; the quantity of each depending upon the kind of the paper stock and the degree of sizing required. An addition of three per cent. of the size is suitable for ordinary printing papers, whilst for those containing much loading materials 1½ per cent. resin size should also be added. Any appearance of "froth" in the stuff is killed by the time honoured remedy—a small addition of petroleum or seal oil.

It is obvious that the size thus precipitated upon the paper films is insoluble in water. The presence of the gelatine, which is in combination with the "tannin bodies" derived from the waste sulphite liquor, cannot therefore be ascertained in the ordinary way by simply macerating the paper in hot water and taking the clear solution. But if the dissolving water be made slightly alkaline the size passes readily into solution, and the usual tests can be applied to prove the presence of gelatine, etc.

This new size is cheap, and in the concentrated state remains unchanged in closed vessels. It can be kept for any reasonable time in a warm or cool place. It is always ready for use, requiring no previous preparation, and imparts to the paper stock all the characteristics of animal sizing. Its strongly adhesive property conduces to the economy of "loadings," and it is said paper can be made entirely from mechanical wood pulp by its use. Papers sized with it bulk well, and their colour are less subject to change when exposed to sun light.

Trade Notes.

PERSONAL.—Mr. William Thorp, B.Sc., for very many years chief of the chemical staff of Messrs. Berger and Sons, Limited, Homerton, has, we understand, severed his practical connection with the firm, but continues to act for the present as its consulting adviser.

THE CENTRAL CYCLONE COMPANY, LIMITED.—We hear that Messrs. Bell Bros., Ltd., of Middlesbrough, have ordered from the Central Cyclone Co., Ltd. of 9, Fenchurch-avenue, London, E.C., one of their patent Cyclone Pulverizers for treating bicarbonate of soda. The advantage of this mill is that it grinds very fine without any heating of the product, and the plant being dustless there is no waste of material.

ACCIDENT AT A CHEMICAL WORKS.—On Monday afternoon, while workmen were engaged pulling down some buildings at North Dean Chemical Works, near Halifax, a portion of a wall collapsed and buried three of them. A considerable time elapsed before they were extricated. John Cocker, Rosemary-street, Siddal, and Ephraim Whitaker, Cleveland-avenue, Siddal, were severely crushed, the latter having his spine fractured. They were subsequently removed to the Halifax Infirmary in the Corporation ambulance carriage. Cocker died about an hour after his admission, and Whitaker was later reported to be in a precarious condition.

JAVA INDIGO.—Messrs. Bunge & Co., of Rotterdam, report that since their report of January 16th this article has remained almost unchanged. On account of the small receipts of a very moderate crop, prices could fairly keep up with regular sales, and although the prices of Java indigo are generally pretty high if compared with those of Bengal, &c., the superiority of Java for many purposes is sufficient to justify this difference. Particularly fancy qualities, only to be found among Java, were paid for at full prices; on the contrary, good middling qualities are now to be had at somewhat reduced rates. In Bengal indigo also there are some fine middlings to fine parcels offering here, and in face of the firm prices paid in the last London auction these lots merit much attention. The further running of prices will greatly depend upon the out-turn of the Bengal crop. Reports so far are favourable, and an abundant crop is generally looked forward to, but August is the critical month, and a moderate crop would most probably lead to an upward movement in prices, the more so as the previous very abundant crop has not proved too large for consumption. Stocks are very moderate everywhere, and really good desirable indigos are easy to sell. An improvement of Bengal prices would recall the attention of consumers to Java.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are dull at 11d. for both 90's and 50/90's. Carbolic acids are on the whole steady, with crude at 1s. 8d. for 60%, and crystals, (40%) 6d. Crude naphtha is a shade easier, at 5d. for 30%, as is likewise solvent. Pitch is firm at 37s. 6d., f.o.b. East Coast. Anthracene rather steadier.

Sulphate of ammonia is flat. The fact, however, that the small quantity that is placed on the market is readily picked up is a significant indication of the nature of the low quotations that are being put forward by intermediate dealers. London is quoted £9. 12s. 6d., Liverpool £9. 10s., Hull £9. 10s., and Leith £9. 8s. 9d. to £9. 10s. Nitrate of soda is quiet.

REPORT ON MANURE MATERIAL.

The market has been very quiet throughout the week, and there is scarcely any quotable change in prices. High grade, 75/80%, Florida rock offers for 1896 steamer shipments at 6½d. per unit, c.f.i., to good United Kingdom ports, and for prompt or early shipments it is likely that ¼d. less might be business. The nominal value of Peace River rock is 6d. per unit; 5¼d. would probably do for South Carolina River rock, and 5½d. for Algerian of similar grade. River Plate bones are still inquired for, and cargoes of handy size are worth £4. 5s. per ton, delivered good United Kingdom ports. Crushed Kurrachee bones now offer at £4. 5s. per ton, autumn shipment, and £4. 7s. 6d. per ton is about the value of Bombay bone meal in the same position. Nitrate of soda is quiet. Spot value is 8s. 1½d. to 8s. 3d. per cwt., according to quality, and cargoes for autumn shipment are now worth over 8s. 4½d. per cwt.

MISCELLANEOUS CHEMICAL MARKET.

Business in alkalis, generally, is quiet, and prices show no tendency to improvement. 58% alkali is still offering at £2. 17s. 6d., bags, makers' works. Leblanc ash only in limited request, and price nominally in casks, ¾d. to 1d. per degree, f.o.b. Prices of caustic soda are steady and firm, as for some time past, as follows:—F.o.b. Liverpool, 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 60%, £6. 10s.; 10 ton lots and upwards. For soda crystals the demand is slack, and price unchanged. Chlorate of potash still at 4¾d., and soda 6¼d. per lb. Bleaching powder quiet in the home trade, and moving steadily for export. Price without change at £7. per ton, makers' works, and £7. 5s., f.o.b. Sulphate of copper still finds a ready sale at £15. 5s., f.o.b. Nitrate of soda 7s. 10½d. to 8s. per cwt. White powdered arsenic continues scarce, and sells freely at £15. to £15. 5s. per ton. There is still a good inquiry for potash, caustic, and carbonate, and prices are firm. Brown acetate of lime is without further change. Business in this and in all other acetates still continues flat, and prices all round are depressed. Yellow prussiate of potash 7½d. to 7¾d. per lb. Muriate of ammonia steady at £22. to £23. Sal ammoniac without change. Carbolic acid in all grades for disinfecting purposes is neglected. Carbolic crystals, 39/40°, 5½d. to 6d. per lb., in quantity. Generally, there is no improvement in demand for chemicals in any of the manufacturing districts.

LIVERPOOL MINERAL MARKET.

There has been a considerable improvement in our market during the past week, and prices all round are considerably firmer, whilst in some articles there has been an advance. Manganese remains steady; the arrivals are small, and prices are unaltered. Ground manganese is in very strong demand at £6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore: There is rather more enquiry for this, but prices are unchanged. Bauxite continues in strong demand for sulphate of alumina and aluminium manufacture, and prices remain firm at 20s. per ton for first quality, 16s. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. Chrome ore: The arrivals have been somewhat improved, but they have all gone direct into consumption, and consequently stocks are nil, whilst the demand for prompt and forward delivery is high; prices are therefore firm, especially for the high percentage ores, which are being done at £5. 10s. per ton, and other qualities at 70s. to 75s. per ton. French chalk: High-class qualities are very scarce; there is practically none in stock, and prices are consequently firm at 65s., 70s., and 77s. 6d. per ton for "Angel White" qualities, and "Gold Medal" brand at 90s. to 110s. per ton. Plumbago continues to meet with a good demand, the price remaining firm at £6. to £8. 10s. per ton for foundries' and lubricating qualities. Barytes: Carbonate continues quiet on account of the increased production of high quality; this, however, is limited, and prices are firm at 70s. per ton for smalls and 85s. to 110s. per ton for lumps, according to grade. Sulphate is in good demand for both lump and powdered, prices being firm at: No.

1, 60s.; No. 2, 55s.; and No. 3, 47s. 6d. to 50s. per ton. Fuller's earth continues in good demand, and prices continue firm at 50s. to 55s. per ton; ground about 55s. to 57s. 6d. per ton; and impalpable powder, 80s. per ton. Ochres and umbers continue in good demand, the price being unaltered: J.C. ochre being done at 60s. to 65s. per ton.

THE METAL MARKET.

LONDON, WEDNESDAY.—Pig iron, firm: Scotch warrants closed at 45s. 1½d., Middlesbrough 36s. 1½d. cash, and hematite 45s. 1½d. Copper, steady: Chili bars, G. O. B.'s and G. M. B.'s, closed at £44. 8s. 9d. to £44. 13s. 9d. cash, and £44. 15s. to £45. three months. Tin, firm: Straits closed at £63. 2s. 6d. to £62. 12s. 6d. cash, and £66. 7s. 6d. to £66. 17s. 6d. three months; Australian, £67. Lead, firm: Spanish, £10. 17s. 6d.; English, £10. 18s. 9d. to £11. Silesian spelter, ordinary, £14. 15s. Nickel, 1s. 2d. Antimony, £32. Quicksilver: first hands, £7. 5s.; second hands, £7. 4s. Copper shares, steady: Cape, 2 to 2½; Copiapo, 2 to 2½; Libiola, 3½ to 3¾; Mason and Barry, 2½ to 2¾; Rio Tinto, 16¼ to 16¾; Tharsis, 4¾ to 4¾.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

Production, after the trades holidays, has no more than re-started by this time, and some of the closed works are still to re-open. The extreme tension of interest over the progress of the general election is another element tending to keep business in a secondary position, and thus temporarily disgeared. Values in general chemicals incline to be easier, but there are few actual changes, and none of any importance. Chlorate of potash and saltcake are procurable at fractionally lower terms. Sulphate of ammonia is much where it was a week ago, only there have been a few fresh sales since the partial resumption of business. It has been done below £9. 10s. for spot, but most of the holders decline business unless at that, and really first-class parcels cannot be got for less. In the paraffin section there is general firmness, with naphtha very stiff at the late rise, and scale and wax steady, though in no great demand. The masters are to meet in a few days to agree on the burning oil prices for the new season's contracting just about to begin. It is likely the late rise of 2d. per gallon will be upheld.

Chief prices current are:—Soda crystals, 35s. nett, Tyne; soda ash, 48/52°, £3. 15s. to £4. 10s. nett, Tyne; white alkali, 48/52°, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett, Glasgow; caustic soda, white, 74° £9., 70/72° £7. 15s., 60/62° £6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching powder, £6. 5s. to £7., nett, Tyne; saltcake, 16s. 6d.; borax, English refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 5d. less 5%, Liverpool; nitrate of soda, 8s. 3d. to 8s. 6d.; sulphate of ammonia, £9. 8s. 9d. to £9. 10s. prompt, f.o.b. Leith; sal ammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 12s. 6d., less 5%, Liverpool; paraffin scale, hard, 2½d.; and soft, 1¾d. to 2½d. per lb.; paraffin wax 120° semi-refined, 2¾d. to 2¾d.; paraffin spirit (naphtha), 7d. per gallon; paraffin oil (burning), No. 1 6½d., and crystal 6¾d., at works, for Scotch buyers (English sales 1d. lower); ditto (lubricating) 86½°, £4. 5s.; 88½° £4. 10s. to £5., and 89/89½° £5. to £5. 10s. Week's imports of sugar at Greenock were nil.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is steady, with more doing at the easier prices ruling. Sales have been made in Congo at £19. and Lagos £20. 5s. per ton, both transit. There is an improvement in the demand for olive oil, and business has been fairly plentiful in Candia and Levant, which at the close are quoted £31. to £32., and £30. 10s. to £31. 10s. respectively. Linseed is quiet, with further alteration from the reduction to 22s. 6d. to 23s. per cwt. for Liverpool makes in export casks. There is a rather better tone in cottonseed since the reduction, Liverpool refined being quoted 17s. 6d. to 18s. per cwt., and American at the same figures. There are some signs of activity in castor oil, in a large measure owing to the easier rates now ruling. Good seconds Calcutta is quoted 2½d. to 2½d., and first pressure French 2d. to 2½d. per lb. Tallow is very quiet, there being virtually nothing doing. There is no change in resin, which keeps steady without much doing. Spirits of turpentine are cheaper at 21s. 9d. per cwt., with a tendency to be steadier as the result. Petroleum keeps steady at 6¼d. to 8½d. according to quality, and Russian refined 6d. per gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.

shire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 50s., and common, 18s.; Irish, Devonshire, 40s. to French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: sh quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead aged. Venetian red, £6. to £10. Cobalt: Prepared oxide, black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, Oxide of iron: Common, £7.; medium, £10.; finest, £20. xide, £22. 10s. to £25.

TYNE CHEMICAL REPORT.

TUESDAY.

micals are without alteration. With a quiet market, shipments fairly up to the average, so that stocks here do not increase. c, 76/77%, in good demand, at £9. 10s.; 70%, £7. 10s. and s., according to market. Sulphur steady at £3. 17s. 6d. icking powder, softs, £7. 5s. per ton, nett; hard, £7. 10s. per ton, caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. a, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; sh, 48%, £3. 15s. per ton, nett; do., 52%, £4. 2s. 6d. per ett; do., 56%, £4. 10s. per ton, nett; alkali, 36%, £2. 15s. a, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. er ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of 5-7 cwt. casks, £6. per ton, nett; do., 1 cwt. kegs, £6. 12s. 6d. a, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. on, nett; soda crystals, casks, £1. 17s. 6d. per ton weight; do., 2 cwt. bags, £1. 17s. 6d. per ton, nett; te of potash, 5½d. per lb., less 6%; pearl hardening, er ton, nett; pure white sulphate of alumina, £4. 2s. 6d. a, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, s. per ton, nett; carbonate of alumina, £28. 15s. per ton, aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. er ton, nett.

T.—South Durham salt is quoted at 9s. to 9s. 6d. per ton, Fees.

ALS.—Trade is moderately steady, with fair shipments. Gas ure in rather better demand. To-day's quotations are: Best mbrian steam, 8s. 9d. to 9s. per ton; second qualities ditto, to 8s. per ton; small steam, 3s. 3d. to 3s. 6d. per ton; gas coals, to 6s. 6d. per ton; bunker coals, 6s. 3d. to 7s. 6d. per ton; 13s. to 14s. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

S.—The froth caused by the election here appears to be gradually ng, the opposition of labour having proved more apparent than Any other business has been very quiet indeed. The following urn of the tonnage upon which dock dues have been paid to the Eastern Railway Company from 1st January to 20th July, 1895: 788 tons, against same time a year ago 1,275,733 tons. The linseed on passage to Hull consists of 20,000 qrs. *via* Cape, rs. *via* Canal, a total of 24,000 qrs., against 4,000 qrs. last week, 0 qrs. last year, and 116,000 qrs. in 1893. Linseed oil is very it 20s. 9d. naked spot; forward, July-Aug., 20s. 6d. is quoted; it months, 19s. 6d. naked; and 19s. 3d. January-April. Boiled ined from £1. to £2. per ton extra. Refined cotton oil flat: spot, 16s.; forward, July-August, 16s. 3d.; November-April, 16s. 3d. ditto, 14s. 7½d.; November-April, 14s. 9d. Casks 17s. 6d., and 28s. per ton extra. Spirits of turpentine, 22s. 3d. per cwt. in . Castor oil unchanged, about 2¼d. per lb. for first pressure. ve oil, £13. per ton. New wool oil, £13. 10s. per ton. Liquid pecial for laundry work, £14. 10s. per ton. Disinfecting fluids, rolene," 2s. 6d. per gallon; "eucalyptaline," 3s. 6d. per gallon, CES.—Linseed cakes, good sale at previous rates; 95% pure, s. to £5. 17s. 6d.; Russians, £5. 17s. 6d. Oil cakes, £5. 2s. 6d. 7s. 6d. Rape cakes, seedings, £4. 7s. 6d.; East India, . 6d.; Black Sea, £2. 12s. 6d. per ton.

NTS.—Trade remains moderately good. Prices are: Oxide of hite and red leads unchanged. Yellow ochre, mineral black, ack, and venetian red, dry, from about £4. per ton; assorted

various coloured paints, from £11. per ton; imperial black varnish, £5. 10s. per ton in barrels. Paint remover in fair request, 25s. to 30s. per cwt. Oak varnish, from 5s. 6d. per gallon.

New Companies.

Cheshire Alkali & Salt Co., Ltd.—CAPITAL £85,000., in 1,000 preference, 17,000 ordinary, and 7,000 deferred shares of £2 10s. each. This company has been formed to acquire and carry on the business of the Cheshire Alkali Co., Ltd., now in liquidation, and to trade as chemical manufacturers, salt masters, distillers, etc. The subscribers to the memorandum of association are:—A. de T. Egerton, M.P., Rostherne Manor, Knutsford; Col. J. Kennedy, Brookside, Sandbach; R. Isherwood, C.E., Kinderton Lodge, Middlewich; H. A. Plump, Bensham Manor-road, Thornton Heath, C.A.; W. J. Berry, 67, Ferntower-road, Highbury, clerk; J. N. Mason, 110, Selsdon-road., Croydon, clerk; K. McDonald, Shenley House, Lordship Park, N., clerk.

Hyatt's Sulphate White Lead Co.—CAPITAL £30,000., in £1 shares. This company has been formed to acquire certain inventions, and to manufacture white lead, milled lead, foil and lead pipes, &c. The subscribers to the memorandum of association are:—J. E. Preston, 36, Lyndhurst-road, S.E., engineer; J. P. Field, 49, Moorgate-street, E.C., merchant; W. Robinson, 20, Bucklersbury, E.C., clerk; J. Jackson, 132, Stanhope-street, Regent's Park, merchant; W. Lee, 19, St. John's-road, Clapham Junction, jeweller; A. Spain, 21, Churchill-road, N.W., engineer; G. V. Simmons, 4, Gainsboro'-villas, Leytonstone, esquire.

Galloways Ltd.—CAPITAL £115,000., in £100 shares. This well-known company of boiler makers, &c., has been re-constructed as above. The subscribers are:—C. J. Galloway, Thorneyholme, Knutsford, engineer; E. N. Galloway, Normanby, Altrincham, engineer; A. W. Galloway, Thorneyholme, Knutsford, engineer; J. H. Beckwith, Beechcroft, Bowdon, engineer; H. Bowman, Sandgate, St. Anne's-on-Sea, engineer; W. E. Norbury, West-view, Chorlton-cum-Hardy, engineer; R. Mottram, Beachy House, Pendleton, engineer; C. Rought, 64, Cannon-street, E.C., engineer.

Electric Ozone Sydicate, Ltd.—CAPITAL £12,000., in £10 shares. This company has been formed to acquire, turn to account, and deal with certain patent rights granted to E. Andreoli for generating and dealing with ozone by means of electricity, and using ozone for various purposes. The subscribers are:—C. Hanbury, 37, Lombard-street, E.C., druggist; F. J. Hanbury, 37, Lombard-street, E.C., chemist; W. P. Henderson, 83, Gracechurch-street, E.C., merchant; E. Andreoli, 18, Somerleyton-road, Brixton, journalist; R. Arnot, 1, Raymond-buildings, Grey's Inn, merchant; W. L. Castleden, 46, Sheen-park, Richmond, secretary; G. Andreoli, 18, Somerleyton-road, S.W., electro chemist.

Recovered Rubber Works, Ltd.—CAPITAL £10,000., in £10 shares. This company has been formed to acquire and undertake the business of indiarubber and chemical manufacturers and merchants now carried on by E. Grimshaw, H. Grimshaw, and T. Rowley, trading as "Grimshaw Brothers," at the Recovered Rubber Works, Clayton, Manchester. The subscribers are:—E. Grimshaw, 167, North-road, Clayton, manufacturer; H. Grimshaw, Thornton-view, Clayton, manufacturer; T. Rowley, 102, Talbot-road, Old Trafford, manufacturer; Mrs. A. J. Grimshaw, 167, North-road, Clayton; Mrs. E. Grimshaw, Thornton-view, Clayton; Mrs. E. Rowley, 102, Talbot-road, Old Trafford; J. Grimshaw, Broughton-park, near Manchester, gentleman.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

J. H. CARTER and T. SMITH, tallow refiners, Hulme, Manchester, under the style of Carter and Smith.

H. S. COLEMAN and R. J. S. MORTON, agricultural engineers, etc., Chelmsford, under the title of Coleman and Morton.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending July 13th.

of Lime—

ates, 914 pkgs. Lister & Biggs

Acetic Acid—

Holland, 50 pkgs. Philipps & Graves
" 50 " A. & M. Zimmermann
" 70 " F. J. Putz & Co.

Acetone—

Holland, 3 pkgs. G. Rahn & Co.

Alum—

Holland, 38 pkgs. T. H. Lee

Aluminium—

Germany, 476 " H. Lambert

Anthracene—

Holland, 164 pkgs. Burt, Boulton & Co.

Antimony Ore—

Straits, 135 t.	H. Grey, jun.
Portugal, 50	J. Bamber
Italy, 50	"
Australia, 8	L. Lazarus & Sons

Asbestos—

Germany, £12	Craven & Co
Canada, 800	G. Ward & Sons
N. Zealand, 6	Sutton & Co.
Holland, 7	Schenker & Co.

Barytes—

Belgium, 42 cks.	J. L. Lyon & Co
Germany, 18	Moreton, Cox Bns.
Belgium, 51	Squire & Calver
Holland, 23	J. Owen
" 51	Magee, Taylor & Co.
" 112	W. Harrison & Co.

Croutchouc—

E. Indies, 298 c.	E. Boustead & Co.
" 57	S. Figgis & Co.
" 27	Prop. Bull Wf.
" 25	L. & I. D. Jt. Co.
France, 14	H. Johnson & Sons
" 9	White, Child & Co.
Zanzibar, 51	L. & I. D. Jt. Co.
" 35	Hale & Son
France, 12	H. Johnson & Sons
Zanzibar, 69	Clarke & Smith
Majunga, 16	S. Figgis & Co.
Rangoon, 12	L. & I. D. Jt. Co.
Zanzibar, 28	Wallace Bns.
Madagascar, 44	Procter Bns.
" 32	L. & I. D. Jt. Co.
Zanzibar, 9	Anderson, Weber & Smith

Carbonic Acid—

Holland, 100 pkgs.	G. Rahn & Co
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Castor Oil—

France, 52 brls.	J. T. Morton
" 20	F. Boehm
" 15	Anderson
" 42	Weber & Smith
" 124 pkgs.	Beresford & Co.
Italy, 40 cs.	J. Greig
France, 70	Snowdon, Sons & Co.
Belgium, 42	Fuerst Bns.

Caustic Potash—

Belgium, 100 c.	Petri Bns.
" 9 drs.	Union L. Co
France, 20	F. W. Berk & Co.
" 40	J. Knight & Son

Chemicals (otherwise unclassified)

Germany, 7 pkgs. £5	Phillips & Graves
" 10	A. Willcox
" 3	F. Boehm
Belgium, 23	T. Palmer
Germany, 29	L. & I. D. Jt. Co.
Holland, 28	E. Merck
" 4	T. Palmer
Belgium, 10	Page, Son & Co
Germany, 74	A. & M. Zimmermann
" 72	T. H. Lee

Copperas—

Germany, 11 pkgs.	A. & M. Zimmermann
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Cream of Tartar—

France, 14 pkgs.	Ross & Deering
Portugal, 10	B. & F. Wf. Co.
Holland, 4	"
" 2	F. C. Devon & Co.
France, 5	W. C. Bacon & Co.
" 30	Finlay & Co.

Dextrine—

Germany, 100 pkgs.	G. Ward & Sons
" 50	Oblenschlager Bns.
" 10	Prop. Sun. Wf.

Dyestuffs—

Argols	
Italy, 2,653 pkgs.	B. Jacob & Sons
" 127	Thames S. T. & L. Co.

Cochineal

N. Zealand, 20 pkgs.	Hore & Scrivener
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Cutch

Rangoon, 1,700 pkgs.	Hoare, Wilson & Co.
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Extracts

Holland, 10	T. Simpson
Holland, 1 pkgs.	R. J. Fullwood & Co.

Deumark,

" 5	Sorensen & Co.
" 1	Pickford & Co.
" 25	Shaw, Savill & Albion Co.
" 2	M. D. Co.
France, 40	T. H. Lee

Gambler

E. Indies, 226 pkgs.	Sollas & Sons
" 441	E. Boustead & Co.
" 144	L. & N. W. Rly
" 409	J. Greig
" 1,184	R. & J. Henderson
" 457	Adamson, Gilfillan & Co.
" 367	Beresford & Co.
" 230	J. Swire & Sons

Indigo

E. Indies, 9 cts.	Parsons & Keith
" 13	Lewis & Peat
" 19	H. Johnson & Sons

Madder

France, 3 pkgs.	Skilbeck Bns.
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Myrobolama

E. Indies, 2,668 pkgs.	J. Graves
" 1,509	J. P. Alpe & Co.

Saffron

Spain, 1 pkgs.	Richardson, Spence & Co.
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Shumac

Italy, 525 pkgs.	Bevington & Sons
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Tanner's Bark

Adelaide, 50 t.	Fisher, King & Co.
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Union L. Co.

" 1.6	Beresford & Co.
" 53	G. & H. Green
" 50	Deering & Robottom

Turmeric

E. Indies, 200 pkgs.	L. & I. D. Jt. Co.
" 500	Leach & Co.
" 1,090	H. A. Litchfield & Co.
" 500	Ross & Deering

Valonia

A. Turkey, 10 t.	L. & I. D. Jt. Co.
" 50	Marshall & French
" 5	Hoare, Wilson & Co.
" 127	A. & W. Nesbitt
" 11	Anning & Cobb
" 10	Boucher, Mortimore & Co.

Dyestuffs (otherwise unclassified)

France, 8 pkgs.	W. Burton & Son
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Farina—

Belgium, 200 pkgs.	H. Grey, junr.
Holland, 200	Seaward Bns.
" 50	J. Knill & Co.
" 150	R. G. Hall & Co.

Glucose—

U. States, 100 pkgs. 573 c.	J. Keiller & Sons, Ltd.
Germany, 25	L. Sutro & Co.
U. States, 100	Page, Son, & East
" 50	285 A. E. Piggott
" 596	L. Norman & Co., Ltd.
Holland, 60	60 Prop. Sun Wf.

Glue—

" £663	
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Infusorial Earth—

Germany, £30	Prop. Dowgate Dk.
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Lead Acetate—

Germany, 33 pkgs.	F. Boehm
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Manganese—

Germany, 11 c.	Magee, Taylor, & Co.
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Manure—

Belgium, 20 t.	D. de Pass & Co
Holland, 2	H. & E. Alvert
Sydney, 105	A. Hunter & Co.
E. Indies, 200	F. A. Hodgkinson & Co.
France, 100	F. S. Battle
Germany, 50	Perkins & Homer
" 7	F. W. Berk & Co., Ltd.
E. Indies, 75	A. Hunter & Co.
N. Zealand, 50	F. J. Cornwell & Co.

Methyl Alcohol—

Germany, 10 dms.	Stein Bns.
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Mica—

Adelaide, £95	W. M. Smith & Sons
E. Indies, 495	"

Molasses—

U. States, 125 cks. 668 c.	L. Sutro & Co.
Germany, 1,603	6,000 Prop. Sun Wf.
" 8,000	A. Edler & Co.

Naphthol—

Holland, 4 pkgs.	Phillips & Graves
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Ochre—

France, 7 cks.	M. D. Co.
" 21	Robinson & Co.
" 34	W. Harrison & Co.
U. States, 16 brls.	Taylor Bns.
Holland, 2	Phillips & Graves

Paraffin Wax—

U. States, 2,420 brls.	Anglo-American Oil Co.
" 100	H. Hill & Sons

Phosphate Rock—

France, 130 t.	A. Hunter & Co.
" 250	Anglo-Contl. G. Wks.
Dutch W.I., 440	Cloid Routledge & Co.
Belgium, 20	H. & E. Albert
France, 260	A. Hunter & Co.

Phosphoric Acid—

U. States, 5 pkgs.	G. Boor & Co.
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Pitch—

Sweden, 300 brls.	C. B. Leighton
Germany, 26	T. Francis
U. States, 67 cks.	T. Simpson

Plumbago—

Germany, 17 cks.	Fellows, Morton, & Co.
" 19	G. Mayor & Co.
" 14	H. J. Enthoven & Sons
Ceylon, 108	R. G. Hall & Co.

Potashes—

Canada, 109 c.	Charles & Fox
" 22	S. Ward & Co.

Potassium Bicarbonate—

Holland, 30 c.	A. & M. Zimmermann
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Potassium Bioxalate—

Holland, 4 pkgs.	Beresford & Co.
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Potassium Carbonate—

Holland, 100 c.	Petri Bns.
Belgium, 20	J. A. Reid
Germany, 90	Petri Bns.
" 402	W. G. Blagden
Holland, 80	A. J. Luke & Co.

Potassium Chloride—

Germany, 60 pkgs.	F. W. Berk & Co.
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Potassium Hydrate—

France, 9 pkgs.	F. J. Putz & Co.
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Potassium Oxymuriate—

Sweden, 20 pkgs.	G. Boor & Co.
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Potassium Sulphate—

France, 20 pkgs.	C. J. Langmead
Belgium, 200	F. W. Berk & Co.

Pumice Stone—

Italy, 1 t.	A. Friend
" 12	Stobbs, Wilson, & Co.
" 5	G. P. Nightingale
" 10	W. J. Davies & Sons
" 22	O'Hara & Hoar

Pyrites—

Australia, 111 t.	G. G. Blackwall, Sons, & Co.
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Rosin—

U. States, 250 brls.	Perkins & Homer
" 530	F. & S. Chiesman & Co.
" 422	H. Hill & Sons
Germany, 30	L. & I. Dk. Co.
U. States, 20	Prod. Brokers' Co.

Saltpetre—

Germany, 152 cks.	P. Hecker & Co.
" 42	J. Hall & Co.

Sodium Hypsulphite—

Germany, 83 pkgs.	F. Boehm
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Starch—

Germany, 790 pkgs.	Horne & Co.
" 80	Phillips & Graves
France, 16	White Bns.
Belgium, 80	T. H. Lee
Holland, 890	Little & Johnston
U. States, 112	Oswego Co.
" 150	Beck & Pollitzer
Belgium, 50	Leach & Co.
" 610	Prop. Scott's Wf.
" 24	Kuhner, Henderson, & Co.
Holland, 60	G. Rahn & Co.
Belgium, 160	Arnati & Harrison
" 60	J. Barber & Co.
" 71	F. Clayton & Co.
Holland, 155	Taylor Bns.
" 75	Phillips & Graves

Stearine—

U. States, 10 cks.	L. & I. D. Jt. Co.
France, 200 bgs.	G. Boor & Co.
" 120	Walbaum & Tosetti
Holland, 254 bls.	Palmer & Co.
Belgium, 15 cks.	H. Hill & Sons

Sulphur—

Italy, 31 t.	J. Kitchin, Ltd.
" 8	Type & King
" 27	Thames S. T. & L. Co.
" 5	C. Tennant, Sons, & Co.
" 21	J. Greig
" 20	F. Smith
" 25	C. Vincent
" 195	F. C. Devon & Co.
" 100	Johnson & Hooper

Tar—

N. Russia, 920 brls.	W. F. Malcolm & Co.
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Tartaric Acid—

Germany, 20 pkgs.	F. C. Devon & Co.
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Austria,

" 12	"
Holland, 4	"
" 36	B. & F. Wf. Co.
" 7	Kirkpatrick & Co.

Ultramarine—

Holland, 20 pkgs.	Thames S. T. & L. Co., Ltd.
" 29	Hernu, Peron, & Co.
Germany, 8 cs.	H. Brooks & Co.
" 38	Moreton Cox Bns.
" 24 cks.	T. Hamilton
" 10	H. Lambert
Holland, 15	Haefner, Hilpert, & Co.
" 1	W. Harrison & Co.
" 3 pkgs.	G. Rahn & Co.
Belgium, 14	Leach & Co.

Varnish—

U. States, 70 pkgs.	Allan Bns. & Co.
" 6	Wilkinson, Haywood, & Co.
Germany, 11	L. & I. Dk. Co.

Verdigris—

France, 2 pkgs.	B. & F. Wf. Co.
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White Lead—

Holland, 100 cks.	Burrell & Co.
Germany, 47	M. Ashby, Ltd.
Holland, 4	S. Tudor & Co.
Germany, 18	N. J. Fenner & Co.
" 4	Haefner, Hilpert, & Co.
" 28	S. H. Willoughby
Belgium, 16	Burrell & Co.
Germany, 65	Randall Bns.

Wood Pulp—

Sweden, 260 pkgs.	Henderson, Craig & Co.
Canada, 3,493	"
Norway, 3,200	J. Sharp
Denmark, 400	G. F. Green & Co.
Norway, 6,300	E. J. & W. Goldsmith
Sweden, 4,361	Moreton Cox Bns.
" 844	W. G. Taylor & Co.
Germany, 1647	W. Friedlander
Norway, 8	L. Knoblauch
Belgium, 1,704	F. Clayton & Co.

adder 1 brl. P. Behrends
rabolams 1,334 bgs.
ella 108 bls.
onia 95 t. C. Vostopulos & Sons
thionisi 119
a—
burg 1,250 bgs. H. Tyrer & Co.
erp 20
se—
burg 606 bls.
h 4 cks. Co-op. W'sale Society, Ld.
irk 200
illes 16 cks. 80 bgs. N. Johansen & Dahl
h 11
h 24 Co-op. W'sale Society, Ld.
azaire 12 bls.
rdam 12
Acid—
h 7 brls. J. Taylor & Co.
en 10 bgs.
tone—
erp 2 cs. J. T. Fletcher & Co.
ad Oil—
h 15 brls.
illes 40 brls. Lyon & Co.
h 91
h 16 cks. Co-op. W'sale Society, Ld.
h 40 cs. M. Nicol & Co.
h 11 cks. Clayton & Fowett
h 13 W. Slater Evans, Sons & Co.
h 5
h 80
in Scale—
York 1,269 brls. 240 bgs. Thompson & Bedford
delphia 400
burg 62 brls.
h 5 bxs.
h—
burg 55 cks.
irk 1 10 dms.
ium Carbonate—
h 104 cks. Co-op. W'sale Society, Ld.
h—
h 4,191 t. Matheson & Co.
York 1,250 brls.
oyal, S.C., 500
Oil—
aux 30 cks. 280 cs.
burg 170 t. H. Tyrer & Co.
stre—
burg 16 cks.
real 114 brls.
h—
York 30 bxs.
h 50 sks.
erp 596 cs. J. T. Fletcher & Co.
rdam 140
ine—
York 117
York 13 hds.
erp 38 bgs.
h—
burg 2 cks.
aux 29
ric Acid—
rdam 2 cks.
le—
York 100 brls.
burg 2 pns.
aux 10 cs.
h 1 bx. C. Murch
azaire 18

Gotteburg, 25 cks.
 Philadelphia, 900 brls.
Waste Salt—
 Hamburg, 655 cks. H. Tyrer & Co.
 Antwerp, 100 bgs. J. T. Fletcher & Co.
White Lead—
 Rotterdam, 27 cks.
Wood Pulp—
 Rotterdam, 101 bls.
 Christiania, 240
 Skien, 325
 " 3,185 H. Tyrer & Co.
 " 2,010 Becker & Co.
Zinc Ashes—
 Marseilles, 11 brls.
Zinc Oxide—
 Antwerp, 75 brls.
 Rotterdam, 100 cks.
Zinc White—
 Rotterdam, 35 cks.

MANCHESTER.

Week ending July 13th.

Albumen—
 Hamburg, 6 cs.
Arachide Oil—
 Rotterdam, 10 cks.
Barytes—
 Rotterdam, 17 cks.
 Hamburg, 2
Calcium Carbonate—
 Antwerp, 1 cs.
Colours—
 Hamburg, 12 cks. 4 cs. 61 bxs.
 Rotterdam, 125 brls.
 Antwerp, 15 cks. 21
 Stettin, 84
Cream of Tartar—
 Rotterdam, 6 cks.
Dextrine—
 Stettin, 100 bgs.
Dyestuffs—
Alizarine
 Rotterdam, 56 cks.
Extracts
 Bordeaux, 100 cks.
Logwood
 Laguna, 400 t. D. Midgley & Son
Farina—
 Hamburg, 538 bgs.
 Stettin, 600 Brown, Geveke, & Co.
" 553
Ferro Prussiate—
 Antwerp, 2 cs.
Glucose—
 Rotterdam, 4 cks.
Glue—
 Hamburg, 25 bgs.
 Rotterdam, 5
 Stettin, 7 cks.
Limestone—
 Antwerp, 3 crts.
Litharge—
 Rotterdam, 1 ck.
Magnesium—
 Hamburg, 100 bgs.
Ochre—
 Treport, 21 cks. Arnati & Harrison
Oxalic Acid—
 Rotterdam, 12 cks.
Potash—
 Hamburg, 9 cks.
Sodium—
 Rotterdam, 15 cks.
Starch—
 Hamburg, 160 cs.
 Ghent, 34
 Antwerp, 130
Sulphuric Acid—
 Rotterdam, 10 cks.
Tartar—
 Bordeaux, 2 cks.
Tartaric Acid—
 Rotterdam, 16 cks.
Tin Perchloride—
 Antwerp, 2 cks.
Ultramarine—
 Hamburg, 4 cks.
 Rotterdam, 4
Waste Salt—
 Hamburg, 13 cks. 500 bgs. qty.

Wood Pulp—
 Rotterdam, 51 bls.
 Christiania, 90 W. H. Ingram
 Drammen, 160 152 bdlis. "
Zinc Oxide—
 Antwerp, 60 brls.
Zinc White—
 Rotterdam, 14 cks.

HULL.

Week ending July 13th.

Acetate—
 New York, 1,581 bgs. Wilson, Sons, & Co., Ld.
Acetic Acid—
 Rotterdam, 15 blas. Hutchinson & Son
Acid—
 Bari, 4 cks. Wilson, Sons, & Co., Ld.
Albumen—
 St. Petersburg, 60 cs. Wilson, Sons, & Co., Ld.
 Libau, 10
Alum—
 Rotterdam, 37 cks. W. & C. L. Ringrose
Aniline—
 Rotterdam, 1 ck. W. & C. L. Ringrose
Antimony—
 Hamburg, 5 cs. Wilson, Sons, & Co., Ld.
Asbestos—
 Riga, 180 bgs. Wilson, Sons, & Co., Ld.
Barytes—
 Rotterdam, 24 cks. Hutchinson & Son
 Bremen, 38 G. Holmes & Co.
 Antwerp, 100 bgs. Wilson, Sons, & Co., Ld.
Chemicals (otherwise undescribed)
 Hamburg, 2 crts. Lofthouse & Saltmer
 Breiten, 3 pks. Veltmann & Co.
 Dunkirk, 36 18 cks. Wilson, Sons, & Co., Ld.
 Hamburg, 9 cks.
 Antwerp, 58 pks. "
Cod Oil—
 Bergen, 88 brls. Wilson, Sons, & Co., Ld.
 Aalesund, 155
 Christiania, 50 "
Colours—
 Trieste, 50 brls.
 Hamburg, 1 6 cs. Bailey & Leatham
 Ghent, 35 Wilson, Sons, & Co., Ld.
 Stettin, 69 cks. "
 Antwerp, 3 Bailey & Leatham
 Bremen, 20 Sissons Brs. & Co.
 Antwerp, 13 pks. 4 cs. Wilson, Sons, & Co., Ld.
 Rotterdam, 66 3 brls. 43 cks. Hutchinson & Son
 " 68 5 cks. 1 cs. W. & C. L. Ringrose
Cream of Tartar—
 Rotterdam, 4 cks. Hutchinson & Son
Cryolite—
 Copenhagen, 6 cks. Wilson, Sons, & Co., Ld.
Dextrine—
 Stettin, 200 bgs. Wilson, Sons, & Co., Ld.
Dyestuffs—
Alizarine
 Rotterdam, 39 pks. 1 brl. Hutchinson & Son
 " 11 W. & C. L. Ringrose
Sumac
 Palermo, 100 bgs. Wilson, Sons, & Co., Ld.
 850
Valonia
 Trieste, 12 bgs. Wilson, Sons, & Co., Ld.
Farina—
 Harlingen, 485 bgs.
 Ghent, 266 cs. Wilson, Sons, & Co., Ld.

Stettin, 50 bgs.
 Hamburg, 25
Gelatine—
 Antwerp, 15 cks. Wilson, Sons, & Co., Ld.
Glucose—
 Stettin, 200 bgs. Wilson, Sons, & Co., Ld.
 New York, 100 brls.
Glue—
 Bergen, 1 brl. Wilson, Sons, & Co., Ld.
 Rouen, 26 cks. 50 cs. Rawson & Robinson
Kaolin—
 Amsterdam, 20 cks. J. Good & Sons
Lamp Black—
 Ghent, 150 brls. Wilson, Sons, & Co., Ld.
Lead Acetate—
 Hamburg, 8 cks. Wilson, Sons, & Co., Ld.
Paint—
 New York, 15 cs. Wilson, Sons, & Co., Ld.
Phosphorus—
 Hamburg, 49 cs. T. F. Bell & Co.
Pumice Stone—
 Messina, 30 cs. Wilson, Sons, & Co., Ld.
 " 63 cks.
Starch—
 Antwerp, 200 cs. Bailey & Leatham
 Bremen, 1,847 Veltmann & Co.
 Antwerp, 300 Wilson, Sons, & Co., Ld.
Stearine—
 Antwerp, 21 bgs. Wilson, Sons, & Co., Ld.
Sulphur—
 Catania, 100 bgs. Wilson, Sons, & Co., Ld.
Tallow—
 Antwerp, 50 bgs. Wilson, Sons, & Co., Ld.
Tartaric Acid—
 Rotterdam, 4 cks. W. & C. L. Ringrose
Treacle—
 New York, 355 brls. Wilson, Sons, & Co., Ld.
 Boston, 225 "
Turpentine—
 Libau, 104 brls.
Ultramarine—
 Rotterdam, 4 cks. 1 cs. Hutchinson & Son
 " 10 W. & C. L. Ringrose
Yarnish—
 Hamburg, 1 dm. Wilson, Sons, & Co., Ld.
White Lead—
 Amsterdam, 5 cks. J. Good & Sons
 Antwerp, 34 Bailey & Leatham
 Rotterdam, 20 W. & C. L. Ringrose
Wood Pulp—
 New York, 497 rolls. Wilson, Sons, & Co., Ld.
 Skien, 340 bls.
Zinc Oxide—
 Hamburg, 1 brl. Bailey & Leatham

GLASGOW.

Week ending July 18th.

Acetate of Lime—
 New York, 432 bgs.
Alkali—
 Rotterdam, 17 dms. J. Rankine & Son
Aniline—
 Rotterdam, 17 cks. 8 cs. J. Rankine & Son
Arachide Oil—
 Rotterdam, 2 cks. J. Rankine & Son
Asbestos—
 Amsterdam, 2 bls.

Barium Sulphate — Antwerp, 500 bgs. 8 cks.	Ochre — Rouen, 34 cks.	Waste Salt — Hamburg, 130 t. 273 cks. 508 bgs.	Antimony — Boulogne, 2 cks.
Barytes — Rotterdam, 46 cks. J. Rankine & Son	Oxalic Acid — Rotterdam, 9 cks. J. Rankine & Son	White Lead — Antwerp, 3 cks. J. Rankine & Son	Caoutchouc — Boulogne, 5 cks.
Bone Meal — Bombay, 3,700 bgs.	Painters' Colours — Antwerp, 7 cks. 7 cs. J. Rankine & Son	Wood Pulp — Fiume, 204 bls.	Colours — Hamburg, 42 cks. 2 cs.
Boracic Acid — Leghorn, 20 cks.	Potash — Hamburg, 35 cks.	Zinc Oxide — Antwerp, 5 cks.	Dyestuffs — Rouen, 46 cks.
Castor Oil — Marseilles, 405 brls. 45 cs.	Pumice Stone — Messina, 20 bgs. 10 cks.	Zinc White — Rotterdam, 12 cks. J. Rankine & Son	Dyestuffs (otherwise undesignated) — Ghent, 25 cks. 1 cs.
Citric Acid — Messina, 6 cks.	Pyrites — Huelva, 3,392 t. Tharsis Co.		Farina — Hamburg, 294 bgs.
Cream of Tartar — Marseilles, 10 cks.	Rosin — Brunswick, Ga., 1,079 brls.	TYNE. Week ending July 13th.	Glucose — Hamburg, 72 cks.
Dextrine — Hamburg, 100 bgs.	Soap — Leghorn, 30 cs. J. & P. Coats & Co.	Barium Chloride — Rotterdam, 300 bgs. Tyne S. S. Co.	Lead Acetate — Hamburg, 33 cks.
Dyestuffs — Alizarine, 1 bx. J. Rankine & Son	Sodium Chlorate — Rouen, 17 cks.	Barytes — Antwerp, 50 bgs. Tyne S. S. Co.	Potash — Rotterdam, 20 cks.
Argols — Bordeaux, 100 cks. 271 bgs.	Sodium Salicylate — Rotterdam, 1 bx. J. Rankine & Son	Glue — Rotterdam, 10 bgs. Tyne S. S. Co.	Saltpetre — Antwerp, 156 bgs.
Extracts — Nantes, 20 cks.	Starch — Fiume, 10 bgs.	Limestone — Antwerp, 3 cs. Tyne S. S. Co.	Waste Salt — Hamburg, 659 cks. 150 t. 500 bgs.
Logwood — Jamaica, 467 t. M'Arthur, Scott, & Co.	Sulphur — Catania, 1,200 bgs.	Phosphate — Antwerp, 339 t. Langdale's Chem. Manure Co.	
Hayti — Sumac, 600 bgs. 25 bls.	Tar — Wilmington, 1,075 brls.	Pyrites — Huelva, 2,473 t. Scott Bros.	GRIMSBY. Week ending July 13th.
French Chalk — Fiume, 50 bgs. Robertson, M'Intosh, & Co.	Tartar — Bordeaux, 35 cks.	Soap — Rotterdam, 2 cs. Tyne S. S. Co.	Albumen — Hamburg, 2 cks.
Glucose — New York, 300 brls.	Tartaric Acid — Messina, 24 cks.	Starch — Antwerp, 260 cs. Tyne S. S. Co.	Aniline Dyes — Hamburg, 10 cks. 15 cs. 20 pkgs.
Glue — Fiume, 200 bgs.	Treacle — Montreal, 7 pkgs.	Tartaric Acid — Rotterdam, 4 cks. Tyne S. S. Co.	Caoutchouc — Antwerp, 1 cs.
Guanine — Onondagford, 660 sks.	Turpentine — Brunswick, Ga., 1,650 brls.	Wood Pulp — Copenhagen, 100 bls.	Dyestuffs (otherwise undesignated) — Dieppe, 30 cks.
Lead Acetate — Hamburg, 13 cks.	Ultramarine — Antwerp, 5 cs. J. Rankine & Son	Alkali — Hamburg, 12 cks.	Farina — Hamburg, 100 bgs.
Magnesian — Hamburg, 39 cks.	Yarnish — New York, 8 brls.	Alum — Rotterdam, 60 bgs.	Plumbago — Hamburg, 3 cks.
		Anthracene — Boulogne, 3 cks.	Starch — Antwerp, 70 cs.

EXPORTS OF CHEMICAL PRODUCTS

OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON. Week ending July 17th.	Boric Acid — Calcutta, 2 cks. £10	New York , 1 5 150	Dusseldorf , 40
Alkali — Rio Grande, 2 t. 10 c. £19	Calcium Chloride — Sydney, 42 drs. £35	Aracaju , 1 1 6	Brisbane , 22 cs.
Alum — Samarang, 11 t. 16 c. £72	Carbonic Acid Gas — Wellington, 20 cs. £214	Calcutta , 5 cs. 35	Grosote
Ammonia (Liquid) — Yokohama, 3 cs. £12	Caustic Soda — Samarang, 5 t. 10 c. £37	Wellington , 1 1 6	New York , 500 cks.
Ammonium Carbonate — New York, 12 t. 9 c. £400	Chemicals (otherwise undesignated) — Brussels, 6 c. £38	Natal , 1 1 7	Grosote Salts
Ammonium Chloride — Melbourne, 6 c. £11	Chloride of Lime — Rio de Janeiro, 7 c. £38	Shanghai , 1 1 7	Hamburg , 3,951 bgs.
Ammonium Sulphate — Philadelphia, 10 t. £105	Citric Acid — Brisbane, 1 c. £6	Melbourne , 1 1 119	Naphtha
Arsenic — Melbourne, 5 t. £78	Genoa , 1 t. 5 160	Hamburg , 1 6 170	Hamburg , 4 brls.
Barium Chlorate — Hamilton, 2 c. £11		Riga , 1 1 15	Naphthaline
Bisulphite of Lime — Calcutta, 12 c. £17		St. Petersburg , 2 1 264	Treport , 50 bgs.
Borax — Natal, 11 c. £16		Coal Products — Alizarine, 50 cks. £707	Pitch
		St. Petersburg , 12 cs. £55	Malta , 25 flms.
		Alizarine Dye , 2 kgs. £14	Dunkirk , 325 t. 10 cks.
		Aniline Dye , 1 cs. £7	Yokohama , 20 bgs.
		Aniline Oil , 6 runs. £60	Boston , 250 brls.
		Aniline Salts , 54 cks. £260	Rouen , 150
		Anthracene , 248 cks. £1,784	Antwerp , 155
		Benzol , 30 168	New York , 556 750
		Carbolic Acid , 15 cks. £44	Halifax , 150
		Trelleborg , 5 5 brls. 10	Danzig , 185
		Odessa , 5 5 drs. 28	Suez , 2
		Paris , 15 31	Tar
		Marseilles , 10 21	Algoa Bay , 1,025 drs.
		Hamburg , 160 1,041	New York , 444 brls.
			Rio de Janeiro , 10
			Sydney , 400 40 pkgs.
			Melbourne , 200
			Natal , 235
			Tar Dyes
			Boston , 3 cks.
			Tar Oil
			Trelleborg , 1,000 brls.
			Coal Products (otherwise undesignated)
			Sydney , 80 brls.

Sulphate— Lisbon, 12 t. 10 c. £212 Montreal, 125 2,125 Naples, 1 16 New York, 52 10 893 Philadelphia, 15 240	Soda Crystals— Samarang, 8 t. 18 c. £17 Natal, 2 3 5 Malta, 3 2 6	Lisbon, 25 Montreal, 25 Naples, 56 Newport News, 251 New York, 234 Philadelphia, 50 Rio de Janeiro, 20 Rouen, 45 San Francisco, 100 San Sebastian, 27 Seville, 25 Shanghai, 14 Venice, 29	San Francisco, 125 Santos, 30 Seville, 50 Shanghai, 4 Sourabaya, 40 Sydney, 29 12 pkgs. Tampico, 100 Tarragona, 30 Trieste, 15 Valencia, 50 Valparaiso, 25 Venice, 20 Vera Cruz, 4 Vigo, 15
of Tartar— Lancaster, 5 c. £17 Bay, 3 13 Burne, 1 t. 70 Lancaster, 12 43 Lancaster, 10 35 Lancaster, 5 19 Lancaster, 10 61 Lancaster, 10 36 Lancaster, 2 138	Sodium Sulphate— Ghent, 100 t. £100	Boracic Acid— Melbourne, 5 t. 10 c. £180	Chemicals (otherwise undescribed) Monterey, 10 c. 3 q. £29 Antwerp, 10 19 Salaora, 5 9 Yokohama, 1 t. 5 41 Hiogo, 1 5 41 Philadelphia, 13 1 430 Genoa, 2 10 85 Boston, 4 13 3 375
ectants— Lancaster, 35 pkgs. £17 Lancaster, 100 cks. 52 drs. 45 Lancaster, 14 cs. 42 Lancaster, 1 t. 4 c. 50 Lancaster, 13 13 Lancaster, 35 35 Lancaster, 15 cs. 11 Lancaster, 15 cs. 18 Lancaster, 43 81	Sodium Tartrate— Montreal, 1 t. £58 Melbourne, 6 c. 16 Toronto, 18 43	Borax— Ghent, 10 c. £10 Barcelona, 4 t. 18 2 q. 98 Quebec, 10 9 Sydney, 1 21 Brisbane, 1 1 3 23 Adelaide, 10 3 11 Hamburg, 20 17 2 418 Santander, 4 4 84 Montreal, 8 2 1 157 Genoa, 3 9 69 Rotterdam, 12 7 3 230 Copenhagen, 2 40 Cadiz, 1 19 Danzig, 5 9 110 Seville, 3 55 Melbourne, 2 6 54 Antwerp, 14 18 308 B. Ayres, 5 100	China Clay— Bombay, 107 t. 10 c. Boston, 775 New York, 140 cks. Rio de Janeiro, 16
fluoric Acid— Lancaster, 5 cs. £25	Strontium Nitrate— New York, 80 kgs. 5 brls. £120	Calcium— Hong Kong, 3 t. 3 c. £8 Odessa, 10 23	Chloride of Lime— Sydney, 1 t. 3 c. 1 q. £35
re— Lancaster, 90 t. £550 Lancaster, 49 15 c. 350 Lancaster, 35 290 Lancaster, 40 380 Lancaster, 189 8 420 Lancaster, 450 995 Lancaster, 19 11 150 Lancaster, 3 15 30	Sulphur— Lancaster, 1 t. £5 Cape Town, 6 5 c. 20 kgs. 110 Hobart, 1 6 8	Calcium Chloride— Sydney, 10 t. 4 c. £23 Adelaide, 10 6 21	Chloroform— Tampico, 1 cs.
Acid— Lancaster, 4 c. £10	Sulphuric Acid— Singapore, 20 cs. £14 Penang, 20 15 E. London, 40 t. 18 c. 102	Caoutchouc— Para, 1 trs.	Chromic Acid— Hamburg, 5 c. £16
horus— Lancaster, 1 cs. £14	Superphosphate— Madras, 5 t. £22 Auckland, 25 119	Carbolic Acid— Constantinople, 7 c. £112 Rotterdam, 8 t. 4 125 Oporto, 2 9 2 q. 100 Boston, 4 19 3 11	Citric Acid— Melbourne, 1 c. £7
LIVERPOOL. Week ending July 17th.	Tartaric Acid— Dunedin, 3 c. £15 Lancaster, 5 26 Christchurch, 4 25 Hamburg, 2 cks. 50 Wellington, 2 10 Bahia, 5 26 Melbourne, 2 t. 15 269 Nelson, 3 18 Sydney, 2 199	Caustic Potash— New York, 8 t. 18 c. £224 Brisbane, 12 16 Adelaide, 10 13 M. Video, 1 16 1 q. 62 Barcelona, 2 2 63	Coal Products— Aniline Colours Melbourne, 2 cs. Aniline Dye Calcutta, 3 cs. Aniline Oil Montreal, 4 dms. Aniline Salts Barcelona, 10 cks. Montreal, 8 cs. Syria, 3 Creosote Danzig, 45 pkgs. Creosote Oil Bordeaux, 40 brls. Pitch Boston, 55 cks. Galatz, 75 brls. Ibrail, 50 Rouen, 2 Tronville, 212 t. Tar Bourgas, 50 brls. Genoa, 1 ck. Ibrail, 20 Penang, 21 t. 5 c. Tar Salts New York, 3 cks.
Acetic Acid— Lisbon, 10 c. 1 q. £6	Albumen— Boston, 5 brls.	Caustic Soda— Alicante, 30 dms. Barcelona, 422 Batavia, 20 Amsterdam, 193 Bari, 35 Bombay, 50 Boston, 80 cks. Calcutta, 55 Callao, 190 Carril, 18 3 brls. Catania, 10 Ceara, 20 Christiania, 10 Fiume, 20 Galatz, 69 Genoa, 167 Hamburg, 205 Hiogo, 52 Ibrail, 50 Iquique, 10 La Guayra, 55 Leghorn, 121 Lisbon, 30 Madras, 4 Malaga, 46 Malta, 50 Manila, 50 Maranham, 5 Matadi, 26 Marseilles, 40 Melbourne, 14 Montreal, 280 Naples, 45 N. Orleans, 18 Newport News, 480 New York, 230 Odessa, 325 Padang, 100 Parahyba, 5 Pelotas, 100 Penang, 100 Pernambuco, 10 Piraeus, 20 Pt. Elizabeth, 20 Puerto Cabello, 22 Rotterdam, 89 Rouen, 21 St. John's, N. Id., 30 Samarang, 21	Coal Tar Products (otherwise undescribed) New York, 19 cks.
Alum— Catania, 2 t. £9 Melbourne, 3 1 c. 2 q. 14 Malaga, 1 2 6 San Francisco, 5 10 25 Smyrna, 8 1 1 43 Melbourne, 1 2 3 6	Alum Cake— Melbourne, 5 t. 1 c. 2 q. £13	Copperas— Alexandria, 31 t. £50	Copper Sulphate— San Sebastian, 1 t. £16 Valparaiso, 8 18 c. 2 q. 107 Calcutta, 2 10 18 Sydney, 6 10 1 105 Bari, 38 19 598 Valencia, 45 5 3 536 Galatz, 10 18 154 Rotterdam, 18 13 Genoa, 324 2 1 4,382 Bordeaux, 96 4 3 1,547 Vera Cruz, 19 3 15 Barcelona, 25 5 3 395 Ancona, 15 1 1 238 Bilbao, 1 3 16 Vigo, 1 1 16 Tarragona, 9 19 1 157 Marseilles, 321 6 1 4,068 Antwerp, 19 3 15 Amsterdam, 2 4 2 49 B. Ayres, 2 3 2 18 Christiania, 1 3 2 18 Tampico, 12 13 195 Maranham, 12 7 6 Venice, 51 9 3 782 Naples, 8 15 3 134 Leghorn, 20 4 2 395
Aluminous Cake— Calcutta, 23 t. 1 c. 2 q. £85	Ammonium Carbonate— Marseilles, 1 t. 11 c. £48 New York, 8 14 300 Rotterdam, 18 31	Coal Tar Products (otherwise undescribed) New York, 19 cks.	Farina— Barcelona, 3 cks.
Ammonium Chloride— Gijon, 10 c. £20 Newfairwater, 1 5 c. 37 Genoa, 2 16 1 q. 98 Amsterdam, 6 12 Smyrna, 2 8 1 91	Ammonium Sulphate— Philadelphia, 25 t. 4 c. 1 q. £258 New York, 25 263 Newport News, 20 17 798 Sourabaya, 32 10 3 379 Samarang, 30 17 1 292 Gd. Canary, 20 203 Carthagena, Sp., 10 118 Barbadoes, 101 11 1 1,015 Las Palmas, 96 9 1 974 Valencia, 111 16 1 1,232 Cheribon, 184 4 1,867	Coal Tar Products (otherwise undescribed) New York, 19 cks.	
Anthracene— Rotterdam, 16 t. £497	Asbestos— Bilbao, 10 bgs. Penang, 1 cs.	Coal Tar Products (otherwise undescribed) New York, 19 cks.	
Barytes— San Francisco, 32 cks.	Bisulphite of Lime— Rangoon, 6 t. 10 c. £48	Coal Tar Products (otherwise undescribed) New York, 19 cks.	
Bleaching Powder— Baltimore, 214 cks. Ancona, 3 Boston, 834 Calcutta, 125 cs. Genoa, 16 Ghent, 86 Leghorn, 25 Libau, 19		Coal Tar Products (otherwise undescribed) New York, 19 cks.	

Iron Oxide—

B. Ayres, 23 t. 11 c. 3 q. £50
 Montreal, 1 12 10

Lead Acetate—

Toronto, 10 c. £14

Lime—

Pernambuco, 28 cks.

Magnesia—

Lisbon, 10 cs.

Magnesium Chloride—

Bombay, 12 t. 12 c. £30

Magnesium Citrate—

Philadelphia, 35 cs.

Magnesium Sulphate—

Sydney, 30 kgs.
 Vera Cruz, 10 cks. 10 bgs.

Manganese—

Melbourne, 2 cks.

Manure—

Valencia, 50 t. 11 c. £160

Ochre—

Hamburg, 109 bgs.

Oxalic Acid—

Boston, 24 t. 14 c. £740

Paint—

Antofagasta, 9 bxs.
 Antwerp, 6 cks. 24 tins.
 Amsterdam, 2 2 cs.
 Bilbao, 2
 Brass, 7 kgs.
 Bremen, 1 4
 B. Ayres, 10
 Calcutta, 6
 Camerouns, 1
 Cardenas, 2
 Colon, 10
 Constantinople, 1 brl. 1
 Curacao, 51 pkgs.
 Hamburg, 27
 Havana, 2
 Havre, 5 1 tin.
 Hong Kong, 100 kgs.
 Lanzarote, 48
 Malta, 1 cs. 1
 Manaoa, 12 4 20
 Maranh, 1
 Melbourne, 11
 M. Video, 1 1 22 2
 Mo-samedes, 7
 Para, 6
 Pimental, 19 cs.
 Punta Arenas, 90
 San Domingo, 8
 Sapeli, 1 7
 Sierra Leone, 33
 Valparaiso, 1 bx. 5 7
 Warri, 1 bx. 7

Painters' Colours—

Bahia, 2 cs. 30 kgs.
 Beluze, 1 1 ck. 265
 Boca, 1
 Bombay, 1,067
 Bremen, 38 25 bgs.
 Cardenas, 4 tcs.
 Corfu, 2 3 brls.
 Ibrail, 6
 Lagos, 2 cts.
 La Libertad, 6
 Lisbon, 1 70 1 bx.
 Melbourne, 1 7 60 kgs.
 M. Video, 1 22
 Montreal, 25
 New York, 10
 Odessa, 68
 Para, 21 3
 Pernambuco, 140
 Pireus, 10
 Ponce, 4 tcs.
 Pt. Elizabeth, 101
 Porto Alegre, 20 40
 Rangoon, 100 bgs. 10 dms.
 Rio de Janeiro, 1 1 cs.
 Rotterdam, 261 1 dm. 15 kgs.
 St. John's, Nfld., 5 cks.
 Salaora, 1
 Savanilla, 6 pkgs.
 Singapore, 100
 Sourabaya, 6
 Talcahuano, 30
 Toronto, 1 45 cs. 1

Paraffin Wax—

Montreal, 8 bgs.
 Penang, 7 brls.

Phosphorus—

Hiogo, 1 t. £725

Pieric Acid—

Rangoon, 8 c. 3 q. £27

Potassium Bichromate—

Alexandretta, 4 t. 15 c. £199
 Genoa, 13 28

Potassium Carbonate—

M. Video, 2 t. 19 c. 3 q. £87
 Baltimore, 11 17 213

Potassium Chlorate—

Cape Town, 1 t. £40
 Gothenburg, 10 450
 Libau, 2 10 c. 148
 Boston, 2 10 106
 Hiogo, 2 10 93
 Bari, 2 10 121
 Rotterdam, 1 6 56
 Copenhagen, 5 215
 Santander, 1 45
 New York, 23 15 906

Potassium Oxalate—

Cadiz, 6 c. 2 q. £14

Potassium Silicate—

Amsterdam, 1 t. 5 c. £6

Salt—

Antwerp, 120 t.
 Belize, 19 3 c.
 Adelaide, 112 9
 Baltimore, 300 6
 Boma, 100
 Boston, 100
 Brisbane, 1 2
 B. Ayres, 1 6 8
 Calcutta, 2,623 2
 E. London, 2
 Faroe Islands, 186
 Gefse, 250
 Ghent, 100
 Gothenburg, 511
 Hamburg, 146 4
 Iceland, 146
 Kingston, 293
 Lagos, 40
 Laurium, 350
 Mazatlan, 10
 Melbourne, 10
 Montreal, 1,248
 Newport News, 115
 New York, 20
 Noqui, 68 14
 Old Calabar, 50
 Opobo, 25
 Quebec, 747
 Richibucto, 200
 Rio de Janeiro, 14
 Rotterdam, 108
 San Francisco, 25
 Savannah, 600
 Shanghai, 14
 Stockholm, 126 12
 Sydney, 204
 Valparaiso, 4 3
 Vardo, 367
 Victoria, W.C.A., 10 14
 Winnebago, 5

Salt Cake—

Rotterdam, 20 t. £30
 Antwerp, 20 30
 Lisbon, 10 15
 Rio de Janeiro, 10 15
 Genoa, 10 15
 Baltimore, 90 8 c. 134
 B. Ayres, 7 7 3 q. 35
 Bourgas, 3 3 2 11
 Rosario, 14 17 2 68
 Mogador, 4 3 1 19

Salt Petre—

Maranh, 6 c. 3 q. £8
 Savanilla, 5 1 9

Soap—

Accra, 262 bxs.
 Algoa Bay, 1,620 6 cs.
 Antigua, 150
 Appam, 75
 Barbadoes, 1,312 2
 Barcelona, 2 cks
 Batanga, 100
 Benin, 200
 Amsterdam, 25
 Antwerp, 1,920
 Bombay, 500 8
 B. Ayres, 2
 Calcutta, 2
 Camerouns, 30
 Cape Town, 2,280
 Ceara, 1
 Colon, 700
 Conakry, 50
 Constantinople, 20 3
 Curacao, 234
 Demerara, 800
 Durban, 4,387
 E. London, 287 25 20 dms.
 Hamburg, 259
 Karachi, 300
 Kurrachee, 515 9
 Lagos, 15
 Las Palmas, 90
 Lisbon, 20
 Madras, 1
 Malta, 40 21
 Munao, 150

Soda Alkali—

Maranh, 2
 Montreal, 1
 Mossel Bay, 950
 New York, 650
 Opobo, 1 ck.
 Penang, 200
 Pernambuco, 90
 Pt. Elizabeth, 2,267
 Pt. Natal, 2,399
 Pt. Said, 13
 Rangoon, 10
 Rotterdam, 25
 San Fernando, 600
 Sapeli, 100
 Savanilla, 2
 Shanghai, 3,972
 Sydney, 1,480
 Syra, 100
 Tampico, 1
 Trieste, 3
 Trinidad, 600
 Underhill, 10
 Warri, 250

Soda Ash—

Barcelona, 50 brls.
 B. Ayres, 16 cks.
 Corfu, 50
 Galatz, 15
 La Guayra, 40
 Leghorn, 16
 Melbourne, 80
 Odessa, 102
 Oporto, 100
 Santos, 15
 Salonica, 16
 Seville, 30
 Sydney, 100

Soda Ash—

Baltimore, 104 cks. 454 bgs.
 Adelaide, 186 brls.
 Antwerp, 150
 Barcelona, 28
 Bari, 100
 Boston, 33 tcs. 192
 Calcutta, 100 7 140 kgs.
 Callao, 74
 Christiania, 12
 Copenhagen, 950 bgs.
 Gefse, 80
 Ghent, 70
 Gothenburg, 45
 Hamburg, 100
 Hiogo, 20 100
 Hong Kong, 24
 Kalmar, 60
 Maranh, 40
 Mitylene, 100
 Montreal, 836
 New York, 68 tcs. 8 650
 Oporto, 10
 Parnahyba, 10
 Philadelphia, 188 191 tcs. 520
 Puerto Cabello, 8
 Rio de Janeiro, 150 brls.
 Rotterdam, 700
 Samarang, 31
 Santos, 42
 Talcahuano, 30
 Venice, 100
 Yokohama, 50

Soda Crystals—

Algoa Bay, 10 cks. 30 kgs.
 Alexandria, 30 brls.
 Boston, 140
 Corfu, 30
 E. London, 10 30
 Malta, 50
 Montreal, 10 25 125
 New York, 62
 Philadelphia, 140
 Samarang, 30

Sodium Bicarbonate—

Bordeaux, 70 kgs.
 Calcutta, 1,250 6 cks.
 Callao, 20
 Cartagena, 50 10 brls
 Constantinople, 20 10 bgs.
 E. London, 40
 Gibraltar, 4
 Hamburg, 10 4
 Kobe, 1,000
 Kurrachee, 40
 Libau, 40
 Malaga, 35
 Malta, 15
 Montreal, 180 16
 New York, 100 15 brls.
 Odessa, 30
 Quebec, 50
 Rotterdam, 40
 Rouen, 34
 Sydney, 200
 Valencia, 10
 Varna, 20

Sodium Bichromate—

Genoa, 5 cks.

Sodium Chlorate—

Bari, 40 kgs.
 Boston, 110
 Hamburg, 25 pkgs.
 New York, 135
 Rotterdam, 14
 Vera Cruz, 6 cks.

Sodium Hyposulphite—

Constantinople, 30 kgs.

Sodium Silicate—

Callao, 30 brls.

Sodium Sulphate—

Boston, 70 brls.
 New York, 60

Starch—

N. Orleans, 10 dms.

Stearine—

Mazatlan, 3 bgs.

Strontia—

Hamburg, 50 t. 6 c.

Sulphur—

Santos, 22 t. 11 c.
 Pt. Natal, 1 10
 Callao, 3 2
 Antigua, 10
 Philadelphia, 75
 Boston, 300 12
 Calcutta, 6

Sulphuric Acid—

Maceio, 12 c.

Superphosphate—

Santos, 46 t. 6 c.

Tartaric Acid—

Savanilla, 1 c. 1 q.

Treacle—

Amsterdam, 35 brls.
 Antwerp, 31 brl-pks.
 Gefse, 300
 Ghent, 20
 Gothenburg, 25
 Hamburg, 47 c. 10
 Norrkoping, 30 106
 Rotterdam, 51 30 35
 Stockholm, 630
 Terneuzen, 50 4

Turpentine—

Antofagasta, 10 dms.
 Alexandria, 43
 Manaoa, 4

Ultramarine—

Sydney, 21 brls.

Varnish—

Barcelona, 6 cks.
 Bombay, 10 cs.
 Cabenda, 2
 Callao, 2
 Genoa, 9
 Hamburg, 1
 Leghorn, 2 5
 Malta, 8 jars
 Manila, 5
 Porto Alegre, 11
 Rotterdam, 2
 Trinidad, 1
 Valparaiso, 2

Verdigris—

Hiogo, 1 c. 1 q.

Whiting—

Maranh, 10 cks.

Zinc Chloride—

Bombay, 17 cks. 8 t. 13 c.

MANCHESTER

Week ending July 27th.

Alum—

Bombay, 98 brls. 25 kgs.
 Alexandria, 50

Aniline Oil—

Bombay, 1 ck.

Aniline Salts—

Bombay, 1 ck.
 St. Petersburg, 14 pks.

Caoutchouc—

Rotterdam, 2 cs.

Caustic Soda—

Beyrout, 3 cks.

Colours—

Hamburg, 4 cks.

Copperas—

Cairo, 14 brls.

Creosote—

Rotterdam, 3 cks.

Creosote Salts—

Antwerp, 65 cks.

Linseed Oil—

Beyrout, 17 brls.

Paint—

Beyrout, 25 dms.

Fin Wax—
 elona, 100 bgs.
 e, 484 t.
Ammoniac—
 10 cks.
etersburg, 13 pns.
Ash—
 out, 1 dm.
alts—
 burg, 14 cks.
ir Salts—
 erdam, 3 cks.
Chloride—
 bay, 25 cks.

HULL.

Week ending July 13th.

1—
 100 bls.
onium Sulphate—
 burg, 400 bgs.
 n, 494
ol—
 erdam, 73 cks.
hing Powder—
 ig, 116 cks.
 York, 70
olic Acid—
 erdam, 20 btl.
 York, 55 cks.
ic Soda—
 3 cks.
 go, 3
 etersburg, 75 dms.
icals (otherwise undescribed)
 erp, 2 cs. 1 ck.
 en, 2
 esux, 20
 tantinople, 4
 nhagen, 150
 tiania, 20 2 30 pks.
 771 slbs.
 ig, 6
 enburg, 11
 burg, 12
 ingen, 20
 300
 sa, 213 100
 erdam, 70 99
 l, 5 225
 etersburg, 8 3 79 pks.
 in, 1
nsed Oil—
 erdam, 98 c.
 andria, 27
 en, 41
 en, 27
 tiania, 68
 tiansand, 55
 rirk, 61
 enburg, 67
 burg, 1,311
 erdam, 398
uffs (otherwise undescribed)
 tiania, 30 bgs.
 ig, 1 cs.
o Extract—
 on, 6 cks.
ed Oil—
 andria, 42 c.
 35
 en, 201
 tantinople, 70
 nhagen, 17
 tiania, 973
 theim, 16
 burg, 78
 y, 2
 erdam, 50
 tholm, 66
 erp, 4
 eaux, 34
 en, 10
 tiansund, 17
 nhagen, 17
re—
 y, 100 t.
 urg, 552
al White—
 en, 50 bgs.
 ingen, 1,000
 —
 erdam, 4 cks.
 burg, 24
 erdam, 6 bls.

Painters' Colours—
 Amsterdam, 3 cks. 3 pks.
 Antwerp, 31 4
 Bordeaux, 21
 Boston, 2
 Bergen, 2 cs. 1 50 75 dms.
 Copenhagen, 19 1 pke.
 Christiania, 1 56
 Christiansand, 80 pks.
 Drontheim, 7 35 pks. 116
 Danzig, 7
 Gothenburg, 28 1 cs. 2
 Hamburg, 25 1 4 pks. 1
 Jersey, 1 kg. 5 9 pks. 10
 New York, 77
 Rotterdam, 12
 Rouen, 37
 St Petersburg, 50 1 cs.
 Stockholm, 22
 Stettin, 72
 Trieste, 23

Pitch—
 Antwerp, 40 t.
 Dunkirk, 59

Salt Cake—
 Rouen, 3 cks.

Sag—
 Libau, 1,000 bgs.

Soap—
 Christiania, 1 cs.
 Drontheim, 21

Starch—
 Copenhagen, 100 cs.
 New York, 41
 Odessa, 400

Tallow—
 Gothenburg, 6 cks.
 Hamburg, 1
 Rotterdam, 25

Tar—
 Antwerp, 1 ck.
 Gothenburg, 200
 Hamburg, 4
 Selzaete, 110 t.
 Copenhagen, 5

Terra Alba—
 New York, 45 t.

Toluidine—
 New York, 4 dms.

Treacle—
 Christiania, 5 cks.

Turpentine—
 Alexandria, 10 dms.

Varnish—
 Antwerp, 5 cks.
 Copenhagen, 2 3 cs. 2 dms.
 Jersey, 1 pke.
 Rouen, 1

GLASGOW.

Week ending July 18th.

Ammonium Sulphate—
 Spain, £800
 U.S.A., 25 t. 12 c.
 Hamburg, 50 16
Benzine—
 France, £43
Bleaching Powder—
 Sydney, 6 t. ½ c.
Caustic Soda—
 Canada, £153
Coal Products—
Aniline Dye
 Calcutta, £33
Creosote
 France, £500
Creosote Oil
 France, £200
Naphtha
 France, £45
Pitch
 France, £1,760
 Oporto, 162
 U.S.A., 200
Aalesund, 100 t.
Antwerp, 357
Havre, 475
Tar
 U.S.A., £60
 Danzig, 150 t. 7 c.
Coal Products (otherwise undes.)—
 Havre, 11 t.
Cream of Tartar—
 Queensland, £71
Dextrine—
 U.S.A., £105

Dyestuffs—

Extracts

Ballarad, £74

Canada, 145

Canterbury, 23

Christiana, 2 t. 1 c.

Patent Indigo

Canterbury, £23

Logwood

Christiana, 2 t. 10 ½ c.

Oporto, £55

Gelatine—

U.S.A., £304

Iodine—

Rotterdam, £920

Linseed Oil—

Canada, 1 t. 4 ¾ c.

Montreal, 1 10

Singapore, 2 6 ¾

Litharge—

Antwerp, £30

Manure—

Havre, 101 t.

Painters' Colours—

Bathurst, £38

Calcutta, 70

Paraffin Wax—

Antwerp, £36

Rouen, 45

Trieste, 305

Venice, 34

Potassium Bichromate—

Antwerp, £274

Ballarad, 21

Canada, 83

Rouen, 206

U.S.A., 1 578

Venice, 336

Rosin Oil—

Rotterdam, £47

Soap—

Brisbane, 3 t. 3 c

Sodium Bichromate—

Antwerp, £93

Canada, 100

Rouen, 690

U.S.A., 153

Sodium Phosphate—

U.S.A., £58

Sulphuric Acid—

Bombay, £100

Calcutta, 25

Tallow—

Oporto, 1 t.

Treacle—

Bergen, 2 t. 14 ½ c.

Christiana, 6

Ultramarine—

U.S.A., £22

White Lead—

Calcutta, £50

TYNE.

Week ending July 13th.

Alkali—

Christiana, 1 t.

Rotterdam, 3 5 c.

Amsterdam, 36 18

Gothenburg, 16 14

Ammonia—

Stockholm, 1 t. 5 c.

Ammonium Sulphate—

Hamburg, 40 t.

Antimony—

Hamburg, 7 t.

Montreal, 2

Gothenburg, 10 c.

Arsenic—

Gothenburg, 18 c.

Asbestos—

Antwerp, 2 q.

Barium—

New York, 12 t. 11 c.

Barytes—

New York, 25 t. 13 c.

Bleaching Powder—

New York, 50 t. 2 c.

Hamburg, 25

Antwerp, 46 11

Christiana, 38 19

Rotterdam, 5 11

Copenhagen, 1 4

Amsterdam, 20 8

Gothenburg, 50 4

Caustic Soda—

New York, 70 t. 3 c.

Hamburg, 3 15

Antwerp, 19 11

Montreal, 14 10

Drammen, 6 1

Aarhus, 1 4

Stockholm, 6 6

Amsterdam, 5 17

Gothenburg, 50 4

Colours—

Hamburg, 9 c.

Copperas—

Sundswall, 7 t. 7 c.

Copenhagen, 1 2

Alexandria, 33

Fluorspar—

New York, 67 t.

Linseed Oil—

Montreal, 3 t. 2 c.

Litharge—

Hamburg, 2 t. 15 c.

Montreal, 10 5

Stockholm, 8 4

Gothenburg, 11

Magnesia—

Hamburg, 9 c.

Antwerp, 1

Oxalic Acid—

New York, 3 t. 7 c.

Paint—

New York, 9 t.

Antwerp, 7 c.

Bilbao, 11

Slag—

Bilbao, 1 t. 5 c.

Soda—

New York, 75 t. 2 c.

Sundswall, 62 3

Hamburg, 8 3

Montreal, 15 3

Christiana, 10

Laurvig, 5 3

Drammen, 25

Nakskov, 4 13

Rotterdam, 15 7

Copenhagen, 4 5

Bergen, 2 14

Drontheim, 5 4

Amsterdam, 20 6

Stavanger, 4 6

Soda Ash—

Nakskov, 11 t.

Gothenburg, 6 12 c.

Sodium Hyposulphite—

New York, 20 t. 2 c.

Sulphur—

Hamburg, 100 t.

Antwerp, 15

Christiana, 10

Drammen, 150

Ronneby, 250

White Lead—

New York, 7 t. 16 c.

Antwerp, 11

Montreal, 109 16

Malta, 11

Copenhagen, 2 19

Stockholm, 8

GOOLE.

Week ending July 10th.

Benzol—

Rotterdam, 42 cks. 9 dms.

Coal Products (otherwise undes.)—

Antwerp, 1 ck.

Boulogne, 2

Hamburg, 41

Rotterdam, 28 5 cs.

Painters' Colours—

Antwerp, 5 cks.

Boulogne, 2

Ghent, 1

GRIMSBY.

Week ending July 13th.

Chemicals (otherwise undescribed)

Hamburg, 10 cs. 16 btl.

Coal Products (otherwise undes.)—

Dieppe, 97 cks.

Painters' Colours—

Antwerp, 1 ck.

Hamburg, 2 1 dm.

Rotterdam, 1

PRICES CURRENT.

WEDNESDAY, JULY 24TH, 1901

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may

Acids:—		£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	9/3	
" Glacial	"		40/-	
Arsenic S.G., 2000°	"	0	15	0
Fluoric	per lb.	0	0	3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
" (Cylinder), 30° Tw.	"	0	3	0
Nitric 80° Tw.	per lb.	0	0	1 1/2
Nitrous	"	0	0	1 1/4
Oxalic	nett	0	0	3 1/4
Phosphoric, 1750°	"	0	1	1
Picric	"	0	0	10
Sulphuric (fuming 50 %)	per ton	15	10	0
" (monohydrate)	"	5	10	0
" (Pyrites, 168°)	"	3	0	0
" (free from arsenic, 145°)	"	1	5	0
Sulphurous (solution) S.G. 1025	"	3	0	0
Tannic (pure)	per lb.	0	1	0
Tartaric	"	0	0	10 1/4
Arsenic, white powdered	nett per ton	15	5	0
Alum (loose lump)	"	4	12	6
Alumina Sulphate (pure)	"	4	12	6
Aluminoferrous	"	2	7	6
Aluminium	per lb.	0	2	10
Ammonia, Anhydrous	"	0	1	3
" 880=28° B.	per lb.	0	0	3
" 24° B.	"	0	0	2 1/4
" Carbonate	nett	0	0	3 1/4
" Muriate	per ton	21	10	0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	37/-	
" Nitrate	per ton	40	0	0
" Phosphate	per lb.	0	0	8 1/4
" Sulphate (grey) London	per ton	9	12	6
" (grey) Hull	"	9	10	0
Aniline Oil (pure)	per lb.	0	0	5 1/4
Aniline Salt	"	0	0	4 1/4
Antimony	per ton	32	0	0
" (tartar emetic)	per lb.	0	0	7
" (golden sulphide)	"	0	0	10
Barium Chloride	per ton	6	7	0
" Carbonate (native)	"	3	5	0
" Sulphate (native levigated)	"	45/-	75/-	
Bleaching Powder, 35 %	nett	7	0	0
" Liquor, 7 %	"	3	10	0
Bisulphide of Carbon	"	13	0	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	2	6
China Clay (at Runcorn) in bulk	"	15/-	30/-	
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	8
Magenta	"	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	1	0 1/2
Benzol, 90 % nominal	per gallon	0	0	11
" 50/90	"	0	0	11
Carbolic Acid (crystallised 40°)	per lb.	0	0	6
" (crude 60°)	per gallon	0	1	8
Creosote (ordinary)	"	0	0	1 1/2
" (filtered for Lucigen light)	"	0	0	2
Crude Naphtha 30 % @ 120° C.	"	0	0	5
Grease Oils, 22° Tw.	per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston	"	1	13	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	0
Lucigen and " Wells Oils	"	0	0	2 1/2
Copper	per ton	44	7	6
" Sulphate	"	15	5	0
" Oxide (copper scales)	"	41	10	0
Glycerine (crude)	"	16	10	0
" (distilled S.G. 1250°)	"	42	10	0
Iodine	nett, per oz.	0	0	9
Iron Sulphate (copperas)	per ton	1	5	0
" Sulphide (antimony slag)	"	2	0	0
Lead (sheet) for cash	"	12	0	0
" Litharge Flake (ex ship)	"	13	5	0
" Acetate (white)	"	24	0	0
" (brown)	"	14	10	0
" Carbonate (white lead) pure	"	16	0	0
" Nitrate	"	18	15	0
Lime, Acetate (brown)	per ton	5	1	1
" (grey)	"	8	1	1
Magnesium (ribbon and wire)	per oz.	0	0	0
" Chloride (ex ship)	per ton	2	1	1
" Carbonate	per cwt.	1	1	1
" Hydrate	per ton	17	0	0
" Sulphate (Epsom Salts)	per ton	3	0	0
Manganese, Sulphate	"	17	0	0
" Borate	per cwt.	2	15	0
" Ore, 70 %	per ton	4	5	0
Methylated Spirit, 61° O.P.	per gallon	0	1	1
Naphtha (Wood), Solvent	"	0	1	1
" Miscible, 60° O.P.	"	0	2	1
Oils:—				
Cotton-seed	per ton	18	0	0
Linseed	"	22	10	0
Petroleum, American	per gallon	0	0	0
Stearine	per ton	24	0	0
Phosphorus (yellow)	per lb.	0	0	2
" (red)	"	0	0	2
Potassium (metal)	per oz.	0	3	0
" Bichromate	nett per lb.	0	0	0
" Carbonate, 90% (ex ship)	per ton	17	0	0
" Chlorate	per lb.	0	0	0
" Cyanide, 98%	"	0	1	1
" Hydrate (Caustic Potash) 80/85 %	per ton	21	5	0
" (Caustic Potash) 75/80 %	"	19	15	0
" (Caustic Potash) 70/75 %	"	19	10	0
" Nitrate (refined)	per cwt.	1	1	1
" Permanganate	per cwt.	2	17	0
" Prussiate Yellow	per lb.	0	0	0
" Sulphate, 90 % (ex ship)	per ton	9	15	0
" Muriate, 80 % (do.)	"	8	10	0
Silver (metal)	per oz.	0	2	1
" Nitrate	"	0	2	1
Sodium (metal)	per lb.	0	2	1
" Carb. (refined Soda-ash) 48 %	nett per ton	4	15	0
" (Caustic Soda-ash) 48 %	"	3	17	0
" (Carb. Soda-ash) 48 %	"	3	15	0
" (Alkali) 58 %	"	3	7	0
" (Soda Crystals)	"	2	2	0
" Acetate (ex-ship)	"	14	0	0
" Arseniate, 45 %	"	11	0	0
" Chlorate	per lb.	0	0	0
" Borate (Borax)	net, per ton	18	10	0
" Bichromate	per lb.	0	0	0
" Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	"	9	7	0
" (74 % Caustic Soda)	"	8	7	0
" (70 % Caustic Soda)	"	7	10	0
" (60 % Caustic Soda)	"	6	10	0
" (60 % Caustic Soda, cream) (f.o.b.)	"	6	7	0
" Bicarbonate	"	6	10	0
" Hyposulphite	"	5	10	0
" Manganate, 30%	"	10	0	0
" Nitrate (95 % ex-ship Liverpool)	per cwt.	0	7	0
" Nitrite, 98 %	per ton	29	0	0
" Phosphate	"	14	10	0
" Silicate (glass)	per ton	4	10	0
" (liquid, 100° Tw.)	"	3	10	0
" Stannate, 40 %	per cwt.	3	2	0
" Sulphate (Salt-cake)	per ton	0	15	0
" (Glauber's Salts)	"	1	5	0
" Sulphide	"	8	0	0
" Sulphite	"	5	5	0
Strontium Hydrate, 100%	"	8	10	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	0
" Barium, 95 %	"	0	0	0
" Potassium	"	0	0	0
Sulphur (Flowers)	per ton	5	15	0
" (Roll Brimstone)	"	5	0	0
" Brimstone: Best Quality	"	1	12	0
Superphosphate of Lime (26%)	"	2	2	0
Tallow	"	23	0	0
Tin Crystals	per lb.	0	0	0
" English Ingots	per ton	69	10	0
Zinc (Spelter)	"	14	15	0
" Chloride (solution, 100° Tw.)	"	5	7	0

THE CHEMICAL TRADE JOURNAL AND OIL, PAINT and COLOUR REVIEW.

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428.

SATURDAY, AUGUST 3, 1895.

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ADVERTISEMENT.

WANTED for the Sale of Oxalic Acid, Potash, and Yellow Prussiate of Potash, in the United States, well situated for pushing the trade.—Address, READ HOLLIDAY and SONS, Huddersfield.

Notices.

Communications for the *Chemical Trade Journal* should be sent to the Editor, and Cheques and Post Office Orders made payable to—

W. BROS., 32, Blackfriars Street, MANCHESTER.

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Subscribers are invited to forward items of intelligence, or cuttings from newspapers, of interest to the trades concerned.

Communications for the Editor, if intended for insertion in the next week's issue, should reach the office not later than **Tuesday** evening.

Reports, and correspondence on all matters of interest to the chemical and allied industries, home and foreign, are solicited. Contributors should condense their matter as much as possible, to one side only of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be on separate sheets.

Advertisements.

Advertisements of Situations Vacant, Premises on Sale or To be Let, and Specific Articles for Sale by Private Contract are charged at the *Chemical Trade Journal* at the following rates:—

10 Words and under..... 2s. 6d. per insertion
 Each additional 10 words 6s. 6d. "

Advertisements, Announcements in the Directory Columns, and all Advertisements of pre-paid, are charged at the Tariff rates, which will be forwarded on request.

Advertisements intended for insertion in the current week's issue should reach the office by **Thursday** morning at the latest.

CURRENT TOPICS.

NITRATE STATISTICS.

THE returns recently issued by the Association Salitrera de Propaganda in connection with the Chilean Nitrate industry show a prospective increase, as compared with last year, of about three million quintals in the amount of nitrate that will be available for export to the European markets alone during the current year.

It is true that the statistics also show considerable increases in the consumption in Europe, where the consumption during the first four months of this year has reached record figures.

There are, however, other factors to be considered in regarding the future. The long-expected Combine has yet, after months of conference, to be consummated, while the need of its existence is rendered more pressing every month. Moreover, though the Continent so far shows an increased consumption, in the United Kingdom there has been a falling off of very nearly five per cent. Also, in arriving at the total nitrate available for Europe during this year, an extra 420,000 quintals has been allowed to provide for the increase which is expected in the American demand, which so far truly shows an increase, but not a very heavy one.

There is, further, another fact which must not be overlooked, namely, that while the output of nitrate is already substantially larger and likely to be still further augmented, the areas in all countries, excepting Russia, that have been put under cultivation for sugar beets show a decrease. This decrease, as compared with last year, is nearly 13 per cent., a change that cannot fail to adversely affect the nitrate industry.

Taking one thing with another, therefore, a combination that will maintain prices at a satisfactory level for the rest of this year, at least, is not without its charm for both producers and dealers, and just at present appears to be what both are waiting for.

SOCIETY OF CHEMICAL INDUSTRY.

This week the postponed annual meeting of this Society has been held at Leeds. After the usual business on the first day (Wednesday), the members were free to enjoy the ample and interesting programme that had been prepared for their benefit.

The variety in the class of works and industries to be visited and investigated was even more extended than usual, so that the programme must doubtless have afforded pleasure to almost every section of the members. Seeing how numerous are the industries represented by the Society, it is saying a good deal for a programme to speak of it as we have done.

The purely pleasurable portions of the three days' programme also enabled the visitors to enjoy some of the best and prettiest scenery in the neighbourhood. So that what with a good programme and satisfactory weather the meeting seems to have been a success and generally enjoyed. Particulars are to be found elsewhere in this issue.

AFRICAN SALTPETRE.

The company which has been offering a part of its share capital for subscription during last week and this, with a view to developing the potassium nitrate deposits of South Africa, seems to have a good chance of doing well. The market price of saltpetre is one which leaves a good margin for profit after allowing a fair sum for working expenses. There is a likelihood of an increasing demand *in situ* for the manufacture of explosives for blasting, since the mining industries are developing so fast. At the same time there is a good demand for curing purposes. The farms are, on the whole, apparently rich in comparison with other deposits that are worked profitably. In Hungary and India soils containing from one-half up to five per cent. yield a profit, while the African deposits contain over 90 per cent. in many cases.

In addition to this, the fields are conveniently situated with regard to transport and water.

There is, however, one point to which great prominence is given in the prospectus, and that is the prospect of the demand. It is so often referred to as almost unlimited that, without being pessimistic, we feel constrained to observe that, though it may be unlimited now, if this company can produce nitrate of potash so cheaply and in such large quantities it will become restricted. To say it is unlimited, therefore, is rather misleading. No doubt there is a good profit to be made, but it must be in moderation. Attempting too much will result in over-production, as witness the present state of the sodium nitrate industry. So that while there undoubtedly is a good and promising demand it is hardly unlimited. Eating when hungry is a pleasure, attended, however, by an inevitable consequence—it destroys your appetite, and so it is with “unlimited prospects.”

SOCIETY OF CHEMICAL INDUSTRY.

ANNUAL GENERAL MEETING.

THIS meeting opened on Wednesday at the University College, Leeds. There was a good and representative muster of those interested in the chemical industries.

Wednesday, July 31st: First Day.—The annual report was read by the Secretary as follows:—The number of members on the register is now 2,892, as compared with 2,828 at the last annual meeting. During the year 226 new members have been elected, as compared with 251 last year; and 160 members have been removed, as compared with 207 last year. During the past session 85 papers have appeared in the Journal, as against 77 last year. The excess of revenue over expenditure amounted last year to £178. 10s. 2d., as against £574. 17s. 9d. in 1893. For this diminution in the balance the increase in the size of the Journal is entirely responsible. The compilation of the collective index from the beginning of the Journal to the close of the current year, which is now in the hands of Mr. Renaut, will entail a further outlay of about £1,000. No new section has been formed during the year, but several of those already existing, notably that in New York, show great activity. A suggestion having been made last autumn that the supply of papers to the various sections would be stimulated by the institution of premiums or prizes similar to those of the Institution of Civil Engineers and other societies, a committee was appointed, which suggested that it might be of advantage to make an occasional presentation of a medal in recognition of conspicuous services rendered to technological chemistry. This suggestion being approved by the council, a design has been prepared under the direction of the President and Sir John Evans. The institution of an international fund to erect a statue to Lavoisier has given to the council an opportunity of identifying the society with a movement which recognises that services to science are rendered, not to one's own country alone, but to the world. The report was duly moved by Prof. Smithells, and seconded by Dr. Lewkowitsch.

The report and balance-sheet having been adopted, the election of office-bearers was proceeded with, resulting as follows:—President, Thomas Tyrer; vice-presidents, Thos. Fairley, Boverton Redwood, Sir H. E. Roscoe, F.R.S., Professor T. E. Thorpe, F.R.S.; ordinary members of Council, R. Le Neve Foster, Douglas Herman, C. C. Hutchinson, Ivan Levinstein, J. S. McArthur, Sir Robert

Pullar; honorary treasurer, E. Rider Cook; honorary foreign secretary, Ludwig Mond, F.R.S.

THE PRESIDENT'S ADDRESS.

In making his retiring address, Professor Thorpe, chief of Somerset House Laboratory, referred to the gratification it gave him to preside over a meeting at the Leeds College, where he had been connected with so many pleasant associations. Proceeding, he said at present moment the question of gas enrichment was engaging the attention of every gas engineer. The fall in the price of oils, which place a few years ago, naturally gave an impetus to the manufacture of oil gas, and to its utilisation for the purpose of enrichment. Enrichment by oil-gas had been largely adopted in Scotland and in English works, and most gas managers who had given the process a fair trial, had abandoned the idea of returning to cannel, as oil-gas was not only far cheaper, but it was more easily worked, and the illuminating value of the gas as sent out was more under control. A serious drawback to the employment of carburetted water-gas was that it contained 30 per cent. of carbon monoxide; and although the Board of Trade has not yet taken any steps to limit the amount of carburetted water-gas that might be mixed with coal-gas for distribution, it could be no question that its use was attended with great danger. Referring to the latest development in acetylene, he said it remained to be seen what practical application could be made of the general character of this gas from calcium carbide by the action of water. Unfortunately, acetylene was hardly less dangerous to breathe than carbon monoxide. Should either of these gases ever come into general use in connection with gas-lighting, some more stringent tests as to the character of our gas fittings and mode of distribution would have to be insisted upon, or the public health would suffer. In connection with the subject of destructive distillation, the President alluded to the improvements in the construction of continuous stills. Although these had many virtues, tar works, he said, were not usually regarded with much favour by those who happened to live near them. Hence the Lennard process, which obviated the nuisance incident to intermittent work, would no doubt be warmly welcomed by the sanitary authorities. (Cheers.) The application of electrical energy to the decomposition of alkaline chlorides either for the production of chlorine or of all or of both products, had been made the subject of many patents. A great majority of these processes had been still-born, and even of those which were stimulated into vitality, the existence had been but a feeble one. With, however, a sounder knowledge of the conditions under which success was alone possible, the problem was once more attracting the attention of technologists, and the chemical world was watching with great interest the results of two or three electrochemical processes which were now being worked out on a large scale.

Seeing we were constantly being warned that we were falling behind our Continental competitors in connection with the chemical industry it was satisfactory to note that in the

MANUFACTURE OF GLYCERINE AND EXPLOSIVES

at least we could hold our own. As they were aware, large quantities of glycerine were now made from waste soap lyes, and since chemically pure glycerine had been prepared from this source in Leeds. We were now not only independent of the Continental supply of glycerine, a matter of some concern to us so long as such explosive cordite had to be relied upon for national defence, but we were able to teach our friends the enemy how to make their dynamite glycerine, to supply them if necessary with the material for the purpose. (Laughter and applause.) In this connection it might be noted that there was another product of the wool-scourer which had for some time attracted the attention of technologists, but which as yet had not been utilised to a satisfactory extent, namely, wool fat. Considering the enormous quantities of this material which were now wasted in the Leeds district alone it was to be hoped that the problem of extracting and utilising it profitably would soon be solved. (Hear, hear.)

The manufacture of edible fats had now assumed large proportions and however much they might sympathise with agriculturists in the long-continued depression which had overtaken them, it was less to shut their eyes to the fact that the trade in so-called fictitious butters had acquired a recognised position in commerce. It might however, be satisfactory to those persons who shuddered at the sound of the word “margarine” to know that the amount imported into this country had been steadily decreasing for some years past. It had been alleged that large quantities of margarine passed through the Customs under a false declaration at the port of entry. He was in a position to say that such was not the case. (Hear, hear.) The false declaration, if any, was to the consumer, and the remedy for this rested with local authority under the powers conferred by the Adulteration of Food and Drugs Act.

TEXTILES AND CHEMISTRY.

Coming to the chemistry of textiles, Dr. Thorpe referred to the resuscitation of an old process which originated with John Mercer many years ago, by which the calico printer is now able to imitate the so-called “crepons” of the weaver. The process consisted in the local application

of a strong solution of caustic soda, which had the effect of giving the fabric the characteristic crinkled appearance. The attempts which had been made to introduce soluble gun-cotton as a silk substitute had been so successful that the substance was now employed in association with wool or cotton fibres, the former giving the lustre and the latter the strength. Beautiful as the material was, it might be questioned whether its use was not attended with risk. Some time since, the application of nitro-cellulose for textile purposes was altogether prohibited in some continental countries. He next alluded to the activity which characterises the discovery of new coal-tar colours, and to the numerous scientific investigations which have thrown light upon the chemical constitution of colouring matters, or had suggested new synthetical methods. After referring to the advances in photography and predicting important improvements in the course of the next twelve months, the president proceeded to speak of

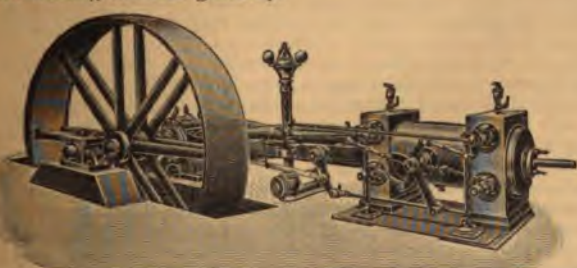
THE FUTURE.

The experience of a quarter of a century as a teacher had convinced him that we in England had much to realise about teaching science. There was certain to be a rude awakening before very long from the optimism which dreamed that things would go on in the future as in the past, and that energy, capital, and all that was comprised in the phrase "business aptitude" were the sole factors of success. Our manufacturing supremacy, in so far as it was dependent on science, was not going to be sustained by these things. It was rather to the setting aside of a few, selected on the principle of the survival of the fittest, and trained to think and to apply the knowledge gained in class rooms, books, and laboratories, that we must look for our salvation. All those industries which depended upon science depended upon the existence and development of such places as the Yorkshire College. (Applause) By development he meant the creation of a school of research in which young men, no longer haunted by the dread of impending examinations, might have time and opportunity to give exercise to the spirit of inquiry, and to strengthen their intellectual powers in attempting to enlarge the boundaries of science. One of the greatest object-lessons in so called technical education was to be seen on the banks of the Rhine at Ludwigshafen. He recalled the vivid impression made upon him by the sight of the wonderful works of the Badische Anilin and Soda Fabrik, with their well-equipped laboratories, the like of which was not to be seen in any educational establishment in the world, and their scores of University-trained chemists at work on problems of chemical industry needing the highest skill and knowledge for their solution. And this place was only one of many such in Germany. It was only by the practical recognition of this spirit in our chemical schools and laboratories that chemistry could progress, or that the arts which were dependent on the application of chemical principles could flourish. The usual votes of thanks followed.

In the afternoon the most important feature was the visit to the works of

MESSRS. GREENWOOD AND BATLEY, LTD.

On entering the Oil Mill Machinery Department of the above works, one is at once struck with the very massive castings, steel cylinders, &c., lying about in large numbers. It appears that hydraulic oil presses (of which the very first one was constructed by the late firm of Messrs. Joseph Whitham and Sons, of Leeds, whose oil machinery business Messrs. Greenwood and Batley now carry on), are now usually made to exert a gross pressure on the crushed meal of 810 tons, while about 15 years ago 225 tons was the maximum gross pressure used; this prepares one for the very large machines which this firm are constructing for treating the seed generally.



HORIZONTAL NON-CONDENSING ENGINE WITH FRIKART'S PAT. CORLISS GEAR.

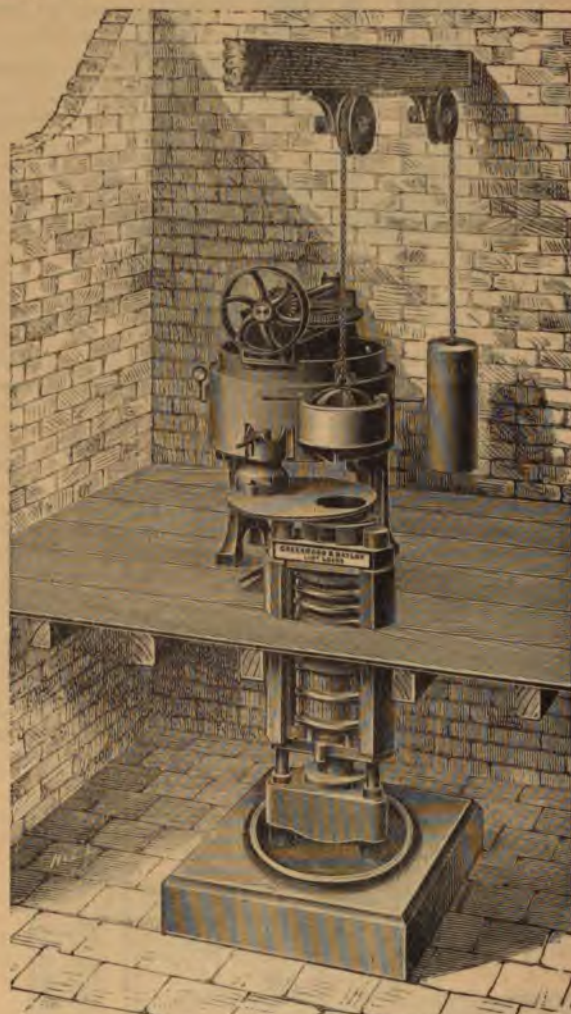
Proceeding, three or four sets of five-high Anglo-American Seed Crushing Rolls are to be seen. The rollers are of chilled cast iron of best quality, driven at both ends by belts, being 24in. diameter by 3ft. long. In another part of the works, in course of erection, are two sets of seed rolls, each with two chilled rollers, 22in. diameter; two 32in. diameter by 3ft. long, and two other sets with chilled rollers as large as 3ft. in diameter.

Near the five-high rolls above mentioned is the firm's patent combined

seed heating kettle and cake moulding machine, which is practically automatic in its action, supplying the seed, cutting off, or striking same, and compressing the meal without any intervention on the part of the attendant, while the cake is, as it were, formed in the kettle, thus preventing loss of temperature.

This machine will easily mould the cakes for 8 of the ordinary 16 or 18 cake Anglo-American oil presses, one attendant being capable of serving the same without much exertion, even when working all the presses every 30 minutes, which we understand is the greatest speed at which it is advisable to work. Here are also some large hydraulic pressure accumulators (which were introduced into oil mills by the firm's predecessors). These are for pressures of $\frac{1}{4}$ ton up to 2 tons and even 3 tons per square inch.

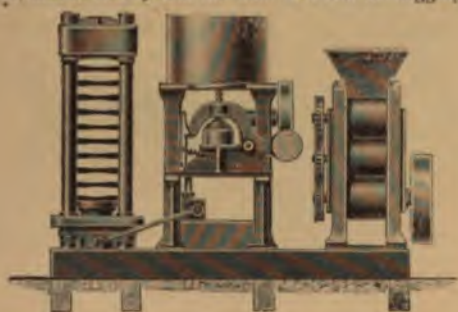
In the same building are a number of small high speed engines, Armington-Sims' patent, of which the firm are the sole makers in this country. These range from 35 indicated horse power, with steam



"LEEDS" ROUND CAKE PRESS.

cylinders $7\frac{1}{2}$ " diameter by 9" stroke, to 90 indicated horse power, the cylinders being $14\frac{1}{2}$ " diameter by 12" stroke. Passing into the main erecting shop of the department one sees a large number of hydraulic presses in course of erection, or in the earlier stages of fitting and turning, and among others, Anglo-American oil presses for 16 and 18 cakes, and the firm's noted patent "Leeds" presses, with all the latest improvements. Each of these presses is provided with a measuring and cake-forming appliance, and the pressing chamber consists of vertical bars bound by strong steel hoops, the bars being fitted to leave a slight clearance through which the oil may flow freely away while the residue is left in the pressing chamber in the form of cakes. The pressing chamber is provided with a single heating apparatus for keeping up the temperature in cases where this is essential. A press on the Leeds system is shown in the illustration entitled the "Leeds" Round Cake Press, the only difference being that this particular press is constructed with three instead of four columns, ensuring an even distribution of

pressure. Here are also the seed rolls previously referred to, and a new type of press on what is termed their "Albion" system, in which the pressing boxes, of round, square, or other desired shape, are charged in a separate apparatus, the meal being fed from the heating kettle, and the cake formed and allowed to fall into the box until the same is full, when the meal is compressed by an overhead hydraulic compressor and more cakes inserted. When full the box is conveyed automatically to one of a series of four or more powerful finishing presses, and substituted for a fully pressed box, which is then automatically conveyed to the separate apparatus above referred to and the cakes extracted by an extracting ram, after which the filling operation is recommenced. The advantages claimed for this system are that the powerful finishing presses are always under pressure, no time being lost in emptying and filling them, and in this system the wear and tear on lagging (always a



THE "IMPERIAL" ANGLO-AMERICAN MILL.

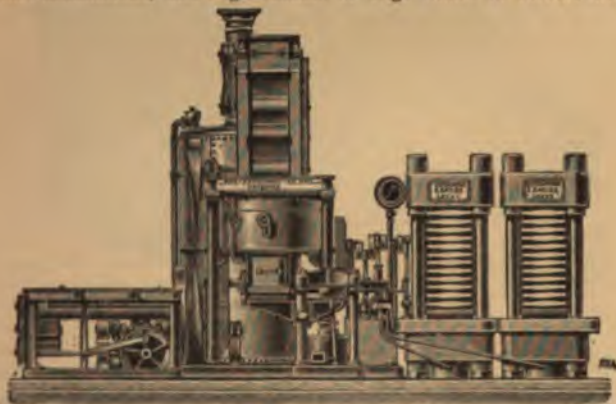
serious item in the working expenses of an oil mill) is very much reduced.

Several cake moulding machines were also on view, these, however, will not serve more than four Anglo-American Presses with one attendant.

A number of rotary pumps of apparently simple construction used for pumping oil at rates from 2 tons to 15 tons per hour, were shown, and near these were several sets of the firm's improved automatic stopping valves for the pressure accumulators, and their instantaneous hydraulic relief valves, for throwing the hydraulic pumps out of operation.

A large number of hydraulic pressure distribution valves were also in various stages of construction, and hydraulic pressure pumps were very noticeable, particularly one set with four rams, 4 in. diameter and four rams 1 1/4 in. diameter, to work at 3/2 ton and three tons per square inch respectively.

In an adjoining erecting shop was seen the compressing and extracting apparatus for the "Albion" system with the conveying machinery or carriage for transporting the pressing boxes for some five or six distinct installations, also edge runners or edge stones of various sizes,



THE "ECONOMIC" MILL.

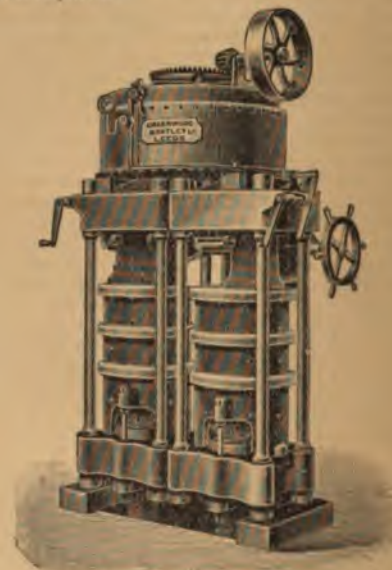
palm kernel and copra reduction mills, disintegrators, cake breakers, cake racks, cake carriages, cake paring machines, &c.; but the most imposing feature in this shop is a compound coupled non-condensing steam engine to indicate 360 h.p. of the type illustrated.

Of the complete mills for the treatment of seeds, the two more important are the "Imperial" and the "Economic," both of which we illustrate. The former is specially designed for the use of farmers and small oil millers, whose works are situated in inland districts, where means of transport is a difficulty. Portability is a great feature of these mills, no separate part exceeding 2 1/4 cwt. in weight, which greatly facilitates their conveyance to destination. They are simple in construction, and embrace all the improvements which they have from time to time introduced into the machinery for the extraction of oil from

linseed, cottonseed, rape, sunflower, mustard, gingelly, sesame, nig curdee, and other similar seeds. The whole of the machines are carried on two steel girders, and the mills are erected complete before leaving the works, and carefully marked, so that any intelligent workman can readily re-erect the plant on arrival at site. No foundations are required, only a few wood beams sunk in the floor being necessary. The mills may be driven either by steam, gas, oil engines from an existing shaft, or, if desired, they may be driven by horse or bullock gear. If a steam engine is not used a small boiler is required to supply the steam for moistening and heating the meal.

The "Economic" has been specially arranged for the economical crushing of oil seeds, on a scale suited to the requirements of large owners, manufacturers, and others using or dealing in oil or oil cake the Colonies, India, and other countries where oil-yielding seeds are grown, enabling them to be crushed on the spot and the product rendered immediately available for sale or consumption. It is the most compact and simplest mill made, only requiring a floor space of 10 feet x 12 feet, inclusive of engine and boiler. Every part is accessible and it is self-contained and quite independent of fixing to walls of building. All the machines connected by gearing are mounted on the same massive iron foundation plate as the engine, thus insuring their proper relative position being maintained.

By a patented arrangement of rolls, kettle, &c., no creepers under the floor or elevators to the kettle are needed, and there being no shafting, first cost is reduced, there are fewer parts to repair, and less engine power is required.



FEEDING CAKE PRESSES.

Special attention is drawn to the thorough heating and moistening of the meal in the kettle by their improved steam jet, and also to the patented triturating mill, which, in combination with the cake paring machine, rapidly and thoroughly reduces the parings to a fine meal suitable for replacing in the kettle, and does away with the heavy and costly edge runners hitherto used for this purpose, effecting a great reduction in the driving power required.

In the other departments of the works that were visited several very interesting operations were explained and shown in operation. In the Central Electric Lighting Station the current for lighting and power through the various departments is generated, ample storage power being provided in accumulators under the station. The firm also make dynamos and motors very largely. In the machine store, where several very interesting completed machines were to be seen, one of the test machines of which the firm make a speciality was shown in operation. These machines are made to test from one ton to 50 million pounds strain. They are also fitted to make tension, torsion, compression, and bending tests. In the ordnance machinery department and general tool department some interesting processes were witnessed. The most notable feature, however, was the use of electricity, through small independent motors, for driving various tools, such as lathes and drills. Thus a radial drill could be operated by touching a switch, a right or left or vice versa motion being obtained, according to the direction which the switch was turned. A travelling crane in the smithy is also worked by electricity. The textile machinery department, tool shop and drawing offices were also inspected. An idea of the completeness as well as the magnitude of these works can be gained from the fact that a photographer and two assistants are employed solely to photograph the various machines and plants that the firm turns out.

MESSRS. PICKLES, SMITHSON AND PICKLES.

August 1st: Second Day.—These works are situated at Ravens-thorpe, near Dewsbury. The members who elected to visit these works were shown the Smithson plant for the treatment of town refuse, which was at work. The refuse is so treated as to use it up completely, partly as a manure and also as fuel, special use being made of the tins and similar articles in the refuse. Experiments undoubtedly show that town refuse contains a very considerable quantity of combustible matter which, by proper treatment, may be rendered available for the production of steam with great facility. The power thus obtained could be utilised by town authorities in various ways, but no doubt the most important application would be the working of dynamos for electric lighting. The electric light is admittedly the light of the near future, and every town and village in the country has within its reach a store of fuel in its refuse, which would go a long way towards furnishing the necessary power. Let us see what could probably be done with the refuse of a city like Leeds, which furnishes about 130,000 tons per annum. The mean results of experiments on the large scale show the prepared refuse (coarse portion) to have an evaporative power of 2.88 lb. per lb. One pound of the crude refuse, therefore, as it is taken from the ash-pits is capable of evaporating 1.05 lb. of water. This figure, of course, leaves out of consideration the fine portion (about 5 per cent.) which also has a considerable heating value. The refuse of Leeds—say 360 tons per day—presuming it to have a composition similar to that of the refuse already treated, should be capable of evaporating 378 tons of water in 24 hours, or 35,280 lb. per hour. Taking 20 lb. of steam per horse-power, we obtain an amount of steam equivalent to 1,764 horse-power continuously. Looking at the matter from another point of view, the 130,000 tons of refuse should produce as much steam as 17,000 tons of good average coal. In like manner the refuse from Bradford (about 70,000 tons) should produce steam equivalent to a continuous horse-power of 948. We should point out that in firing with this prepared refuse, on account of the high percentage of mineral matter present, steam is not raised so quickly as with a corresponding quantity of coal. Consequently more boiler space is required to produce a given quantity of steam. Probably three boilers fired with the refuse would produce about the same amount of steam as two fired with coal, but this must only be taken as a rough estimate. More work would no doubt be done by having the boiler furnaces fitted with movable grate-bars so as to avoid the frequent cleaning out of the clinker.

With regard to the disposal of the rags, paper, metal, glass, &c., collected in the rough revolving cage, amounting to about six per cent. of the crude refuse, we need say but little. They could, if desired, be destroyed in a small furnace, but a better method would be to wash the whole with a stream of water in a revolving cage. The recovery of the rags and other fibrous material would more than repay the cost of the operation, and the paper would be washed away in the form of pulp. The old iron and tin cans could be dissolved in crude oil of vitriol and converted into "copperas." In this way not only is an unsightly mass of rubbish got rid of, but a useful compound is formed which can be employed as a disinfectant, or in the sewage works of a town.

A new dyeing machine specially designed to prevent the fouling of streams with spent dyewoods was likewise shown. This machine may be said to consist of three divisions—one for the water used in dyeing, the second for the logwood or other dyeware, and the third a space to enable a circulation of the water through the dyewoods in one division, extracting the colouring matters, and then back again to the first division, where it is used for dyeing the material in the usual way.

By these means the dyeing of any suitable material may be carried on without direct contact with colouring matters other than those which are extracted in a soluble condition.

The circulation of the liquor in the various divisions is due to a novel steam-pipe arrangement in a confined space. This is as interesting as it is novel, and on it the whole success or otherwise of the machine seems to hang.

In an ordinary dye vessel the perforated copper steam pipe laying on the bottom simply causes the steam to blow direct into the dye liquor, the goods being mostly protected by a partition from direct action of the steam, but without any special attempt being made to utilise the rising steam as a means of causing the circulation of the liquor in the vessel.

In this particular machine this action is taken advantage of, the steam pipe being perforated with a double row of holes, which, instead of allowing the steam to blow out horizontally, as is usually the case, cause it to issue in an upward or vertical direction. By this means the injective action of the steam, more especially when the water is nearing the boiling point, is taken full advantage of.

In addition to these two more important features, the usual plant for cutting and preparing dye-woods, grinding myrabolams, extracting dye-woods, preparing tannins and other extracts used in dyeing, was open to the inspection of the visitors.

Among other works of interest visited, special mention should be

made of The Leeds Steel Works, Messrs. Jackson and Son's Tannery, various dyeworks and glass bottle works. At the mills of Messrs. John Smith and Sons, Ltd., in addition to the wool-washing, a large water-softening apparatus and plant for the recovery of grease from wool-washing waste were inspected. The last day (Friday) was given up to pleasure unalloyed with business, and a full day excursion made to Wharfedale, ending with a smoking concert, by invitation of the Priestley Club, in the evening.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

- Recovering Volatile Solvents from Collodion Coatings of Paper. H. De Gransilliers. 13,562. July 15.
Improvements in Scrubbing Gas. S. Chandler, junr. 13,570. July 15.
Improvements in Manufacture of Gas. F. Clark and Southend Gas Co. 13,574. July 15.
Improvements in Oil Presses. G. C. Dymond. 13,623. July 16.
Improved Manufacture of Ammonia and Ammonia Salts. C. A. Faure and D. A. Casalanga. 13,645. July 16.
Waterproof Elastic Cement. J. P. E. Proud. 13,649. July 16.
Artificial Fuel. R. Middleton. 13,671. July 17.
Manufacture of Lead Oxide. A. Gutensohn. 13,711. July 17.
Steam Traps. T. Shore, junr. 13,803. July 18.
Explosive Nitro-compounds. W. Fairweather. 13,813. July 19.
Improvements in Manufacture of Nitric Acid and Apparatus therefor. C. Dreyfus. 13,826. July 19.
Improvements in and Apparatus for Manufacture of Hydrochloric Acid. C. Dreyfus. 13,827. July 19.
Manufacture of Oxygen, etc. J. B. Torres. 13,831. July 19.
Separating Solid and Semi-solid Substances from Sewage Sludge, etc. W. Birch. 13,857. July 20.
Smoke Consuming Apparatus. C. W. Stauss. 13,876. July 20.
Improvements in Coke Ovens. A. J. Boulton. 13,882. July 20.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

Improvements in or connected with the transport of Sulphuric, Hydrochloric, Nitric, and other Corrosive Acids. R. England, 36, Mark-lane, London. Eng. Pat. 16,536. Aug. 30, 1894.

For the transportation of corrosive acids, more particularly on sea, the containing vessels are usually packed in cases filled with whiting, sawdust, or ashes. All these have attendant disadvantages, to overcome which this patent proposes to use kieselsuhr, or peat, for which it is claimed that perfect absorption is obtained in case of breakage without the evolution of any objectionable gas or escape of acid.

Improvements in the Treatment of Alkaline Salts or the Salts of Alkaline Earths. J. Y. Johnson, 47, Lincoln's Inn Fields, London (communicated by N. Bassett and W. de Baranoff, 21 Boulevard, Poissonniere, Paris). Eng. Pat. 21,447. Nov. 7, 1894.

The object is to treat alkaline salts or earths so as to render the acid as well as the basic constituents available. Alkaline chlorides are treated with SO_2 and oxygen forming sulphates and liberating chlorine gas, or hydrochloric acid gas, if water is employed. To obtain the requisite SO_2 , sulphate of lime, either natural or artificial, is heated in a retort with carbon. The CO_2 evolved is collected and used for carbonating the alkaline solution subsequently obtained. The resulting calcium sulphide or oxy-sulphide, after cooling, is moistened with one equivalent of water and placed in an apparatus similar to that used for making bleaching powder. It must be water-tight when closed. A part of the CO_2 from the first reaction is passed into the chamber liberating H_2S , which is collected and burned into SO_3 and water. The calcium carbonate that is left is roasted for the liberation of the CO_2 it contains.

Before treating the alkaline chlorides with SO_2 and oxygen they are rendered porous by mixing with some inert body, such as white sand, and dried. The mixture so prepared is heated in a retort to a visible red heat prior to the passage of the SO_2 and oxygen, the chlorinated products being collected at the other end of the retort and conveyed by a pipe to suitable absorbing apparatus. When phosphate of lime is used as the raw material it is first ground and suspended in water, and then saturated with SO_2 . The resulting soluble phosphate of lime is treated with an alkaline sulphate, forming a soluble alkaline phosphate and gypsum, the former being causticised with lime (regenerating the tribasic phosphate), and subsequently carbonated if desired.

Improvements in Apparatus for Washing or Scrubbing Gas. C. C. Walker, Midland Ironworks, Donnington, near Newport. Eng. Pat. 9,556. May 14, 1895.

A series of trays are piled upon each other to form a tower, and fitted with oblong central openings having upward extending sides from which ribs project; similar but alternating ribs also project from the sides of the trays. Alternately over and between these a hood with a depending rib fits, the bottom portions of the ribs being perforated with vertical slits. The gas enters at the bottom, passing first, if so desired, through a tar separator of the pattern and style described in Patent 3,619, 1881. The gas then passes upwards through the central opening, down through the perforations in the hood, thus passing through a suitable scrubbing liquor flowing in the opposite direction. In this way it rises from tray to tray and escapes at the top. The scrubbing liquor enters at the top and flows downwards through alternate trapped dips, taking a serpentine course in each tray round the baffle plates and hoods. The latter are all fastened to a central spindle worked with a hand wheel at the top, so that the depth of seal can be regulated at will. The trays are held together by long tie-rods fastened with nuts at one end only, so that they can easily be unfastened and the sections removed for clearing.

Legal Intelligence.

EDINBURGH COURT OF SESSION.

(Before Lord Stormonth Darling.)

SCOTT AND SON V. WALKER AND COMPANY.

This was an action and counter-action between George Scott and Son, engineers, London and Liverpool, and Walker and Co., chemical manufacturers, Irvine. Scott and Son sued for the second, third, and fourth instalments of £1,900, the price of evaporating plants which they had contracted to supply to Walker and Co., and Walker and Co. made a claim for about £1,400, including sums of £60. and £30., as the price of jointing and non-conducting composition which they alleged should have been supplied by Scott and Son, and the labour of drilling holes in part of the plant, the remainder being a sum as damages for alleged delay in completing the contract. Lord Stormonth Darling gave decree in favour of Scott and Son for the instalments, and gave them absolver in the action against them by Walker and Co. His Lordship found that Messrs. Scott engaged to supply evaporating plant in Messrs. Walker's caustic soda works at Irvine in March, 1894, and the plant was in full working order at the end of September following. It proved a complete success. Its main object was to economise fuel, and that object had been attained. With reference to the action by Messrs. Walker, his Lordship said that according to the contract the plant was to be capable, along with Messrs. Walker's boiler, of evaporating a certain amount of water per week, with the result that a concentrated liquor was to be delivered at 110° Twaddle. Taking the letters of the parties together they formed a stipulation that at the end of twelve months, if the plant proved a failure, Messrs. Scott were to be bound to remove it; and, on the other hand, they were to have every opportunity within the twelve months of making any alteration or addition which would enable it to prove a success. As to which of the parties was to supply certain material, it was impossible to lay down a general rule; but Messrs. Walker had not proved to his satisfaction that the charges referred to were improperly thrown upon them, and they might have avoided all misunderstanding if they had made some inquiry at the outset. As to the claim for work done, he did not see there was any ground for that. On the head of damages for delay, his Lordship said Messrs. Scott had no interest in delay supplying the plant. Their sanguine expectation of being able to supply it in ten weeks was not quite realised, but it was exceeded by so comparatively short a period that he was unable to find any ground in a question of unreasonable delay for awarding damages. With regard to the alleged delay in the starting of the plant after it was erected, his Lordship held that this was caused by Messrs. Walker wishing to have some of the material worked off before the plant was fully ready. On the whole case, he found in favour of Messrs. Scott and Son.

THE MANCHESTER CORPORATION POLLUTION CASE.—At the Manchester County Police Court on Wednesday, the case of the Manchester Corporation, who are summoned by the Mersey and Irwell Joint Committee, in respect to the pollution of the stream at Gorton, was again down for hearing. Mr. Wilson (Preston), who appeared on behalf of the prosecuting authority, stated that when the case was last before the court it was adjourned, as negotiations were in progress with a view to settling the matter. These negotiations were not yet complete, and he again asked for another adjournment. The case was adjourned until September 25th.

FILTRATION OF SEWAGE EFFLUENTS.

(Concluded from p. 19.)

Experiments with sewage collected on the "separate" system, excluding rainfall.

BY the courtesy of the Sutton (Surrey) Urban District Council I enabled to append the following statement of results obtained in similar treatment of the sewage as carried out at the sewage works of Council. The trials in question were made during the period of 9 of the late Sutton Local Board, of which authority I was at the time member, and therefore am able to speak of the results from personal experience. The works were under the direction of Mr. A. Greatorex, Assoc. M.I.C.E., surveyor to the Board.

The filters employed are seven in number, as follows—

2 proprietary,	35 feet by 20 feet....	area 700 square feet each.
2 coke breeze	" " " " " " " "	700 " "
2 sand	" " " " " " " "	700 " "
		4,200 " "
1 burnt ballast { 142 } feet by 34 feet		4,454 " "
		8,654 " "
		Total area .. 8,654 " "

The filters are constructed as follows—

Proprietary.

Top, 6½ ins., medium sand.
 " 3 " pea gravel.
 " 10½ " proprietary article mixed with sand.
 " 5 " extra coarse sand.
 " 4 " pea gravel.
 Bottom, 5 ins., coarse shingle round the pipes.

Coke breeze.

Top, 8 ins., medium sand.
 " 12 " coke breeze.
 " 5 " extra coarse sand.
 " 4 " pea gravel.
 Bottom, 5 ins., coarse shingle.

Sand.

Top, 8 ins., medium sand.
 " 12 " " "
 " 5 " extra coarse sand.
 " 4 " pea gravel.
 Bottom, 5 ins., coarse shingle.

Burnt ballast.

Top, 4 ins., soil.
 " 6 " fine ashes.
 Bottom, 18 ins., burnt ballast.

120,000 gallons of effluent water are passed through the filters per working nine hours. The six small filters are worked one day and large the next day, thus allowing alternate days of rest; the six filters have been at work nearly two years and the large one three months with the exception of the bad days in winter.

The percentage purification of the oxidisable organic matters effluent is shown in the following table, which is prepared from analyses made by Dr. Jacob, medical officer of health for the Sutton district:—

Date.	Proprietary	Coke breeze	Sand
1894.	filter.	filter.	filter.
May 2nd	36.4	47.6	31.0
July 13th	51.5	41.0	32.2
" " " " " "	—	50.0	—
" " " " " "	—	53.0	—
Oct. 16th	61.0	51.0	30.0
" " " " " "	54.0	48.0	24.0
Nov. 24th	53.3	14.7	50.0
" " " " " "	44.2	26.5	51.6
Average	50.1	41.5	36.5

On the 24th April, 1895, Mr. Greatorex kindly collected for a series of samples of crude sewage, precipitation effluent and filter

being averages of ten hours' working. These were analysed at the laboratory, and yielded the following results:—

April, 1894.	Sewage including suspended matters	Sewage excluding suspended matters.	Effluent before filtration	Burnt ballast filter.	Sand filter.		Proprietary filter.		Coke breeze filter.	
					No. 1.	No. 2.	No. 1.	No. 2.	No. 1.	No. 2.
Absorbed ...	8.98	4.29	2.92	2.54	1.13	1.08	1.22	0.85	0.85	0.66
per cent. on	—	—	0	13.0	61.3	63.0	58.3	70.9	70.9	77.4
and effluent ...	—	—	0	13.0	62.1	64.6	64.6	74.1	74.1	77.4

The first table of the results obtained at Sutton, it would appear the proprietary filter gave the best results; but this was the lower rate at which this filter worked, as in many instances the consequence of the finer grain of material and frequent quantity passing through the bed was far less than that of the remaining filters. In the case of the experiments conducted at Sutton, the rates of flow were maintained at equal to the second table of Sutton results, however, the coke breeze filter worked all the others, the proprietary and sand filters being very inferior.

From the above results it would appear that the burnt ballast filter worked and requires a short period of rest, as a former experiment of the 18th July, 1894, Dr. Jacob stated that the results in the various filters were quite fit to be discharged into the water without further treatment.

Conclusions.

The function of a filter is twofold:—(1) It separates mechanically all solids of suspended matter and renders the effluent clear and (2) It effects the oxidation of organic matters, both those in solution and those in solution, through the agency of living organisms. The preliminary establishment and subsequent cultivation of these organisms which is to be aimed at in the scientific process of purification.

The primary putrefactive and other similar organisms commence the breaking down of the organic compounds and converting them to carbonic forms, principally water, carbonic acid and ammonia; the organism then acts upon the ammonia, the nitrogen being converted into nitric acid. For this process to go on, three conditions must be fulfilled. Firstly, the organisms must be supplied with plenty of food; secondly, there must be present a base, such as lime, with which the acid can combine; and thirdly, the biological action must be maintained in the dark, i.e., in the body of the filter and not in the light above the filtering material. Filtration on a bed of sewage or other foul water containing in solution but oxygen and a large quantity of oxidisable organic matter is impossible.

That the filter, by cautious increments in the quantity of effluent, which in itself contains the necessary organisms, must be gradually brought to a state of high efficiency. This condition is shown by the existence in the filtrate of a constantly increasing proportion of nitric acid.

That the contact of the micro-organisms with the effluent must be effected by leaving such effluent at rest in the filter for a greater or less time according to the degree of purification required, the process being analogous to that of fermentation. The system employed in many places is to run the water through the filter and thus allow insufficient time for the result that the filtrate is soon in an unsatisfactory condition.

That after each quantity of effluent has been dealt with, the organisms must be supplied with air, which is readily obtained by emptying the filter from below, whereby air is drawn into the interstices. The filter must stand empty for an hour or more previous to another filling and a longer period of aeration, say 24 hours, must be allowed every seven or eight days.

That a coke breeze filter worked in this manner is practically self-maintaining. The general results obtained by these several trials under actual working conditions, it is apparent that there is no difficulty in obtaining any desired degree of purification by means of a filtration conducted on biological principles. If a higher purity be required than that indicated by the foregoing, it can be obtained by an augmentation of the filtering appliances at a comparatively small cost, as, where clay is obtainable, the method of employing in making the new burnt ballast filter bed at Sutton

may be adopted, viz., by simply digging out the clay so as to form a pit about 3 feet deep, and filling it up with the same clay after burning,

and thus a cheap and efficient filter bed is obtained, the cost of the large filter bed at Sutton, having an area of 4,454 square feet, or rather more than one tenth of an acre, being less than £100., including all charges.

By such a system the necessity for costly farms is entirely obviated. The results are completely under control, and the filters can be arranged to suit all requirements it is possible to contemplate.

Trade Notes.

AMMONIA-SODA.—It appears that the alkali and salt works at Middlewich, carried on by Murgatroyd's Ammonia Soda and Salt Syndicate, Limited, have passed into the hands of Messrs. Brunner, Mond, and Co., Limited. All the details have not, we believe, been finally settled. Still, it may be regarded as *un fait accompli*. In this connection it is reported that several English and foreign makers of ammonia-soda are negotiating a combination of some kind, which may affect prices during the coming year.

SCOTCH OIL.—It is rumoured that on Wednesday the Scotch oil representatives at Glasgow fixed the annual contract price for burning oils at 7d. per gallon being 2d. in advance of last year.

FIRE AT A GLASS WORKS.—Last week a fire broke out at Messrs. Pilkington's Glass works, St. Helens. The fire brigade on arriving found a wooden staging in flames. The employees, however, soon got the fire under.

SALFORD TECHNICAL SCHOOL.—The finishing touches are being given to this magnificent building, which will very soon be ready for the reception of machinery. The school constitutes probably the most important architectural feature in the borough.

HEAVY FINE ON A SEWERAGE BOARD.—The Accrington and Church Outfall Sewerage Board was fined £280 at the Blackburn County Court this week for disobeying an order to carry out a sewerage scheme within 18 months. The fine was at the rate of £10 for each day of default.

ELECTROLYTICAL FINANCE.—A bank for financing electrical undertakings has been constituted a Zurich. The share capital is to be £1,200,000, of which 25 per cent. is to be paid up; and the directors are authorised to issue bonds to the amount of double the paid-up capital.

PETROLEUM BORING IN JAVA.—According to Java advices, boring for petroleum in Netherlands, India, continues to give satisfactory results. In the districts around Sourabaya the oil wells yield abundantly, and a brisk local trade in the product has sprung up. In Mid-Java also the same industry has been started with success. Pipe lines have been laid from the wells to the tramway, and tank cars are there filled for despatch to Samarang, where oil warehouses are being built.

MAINTAINING HIS RIGHTS.—A somewhat spirited course has recently been taken by a chemical manufacturer in regard to river pollution prosecutions. Mr. Josiah Hardman, of Milton, North Staffordshire, was summoned by the Trent Fishery Board, before the Potteries Stipendiary, under the Salmon Fisheries Act, 1861, for allowing waste matter to run into the river, and thus killing the fish. It was proved that the defendant had taken certain precautions, but it was alleged that these were insufficient. The defendant claimed, under section 6 of the Act, to have the case tried by action in the High Court. To establish this claim he had to show that the alterations necessary to meet the requirements of the Board would cost over £100., and his witnesses satisfied the Stipendiary that the cost would be from £1,000 to £1,500. The fine by the magistrate could not exceed £5.; but the defendant elected to have the matter settled by an action, and therefore it remains for the Board to proceed in this manner if they should think fit.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are easy, both 90's and 50/90's being quoted 11d. to 11½d. Carbolic acids keep fairly steady as regards 60% crude and 40% crystals, the latter, if anything, being the turn easier. Crude naphtha is quiet at 4¾d., while solvent is unaltered at 1s. Creosote and anthracene are without change. Pitch steady at 37s. 6d., f.o.b. East Coast.

Sulphate of ammonia is very quiet, and prices generally appear to be easier. The low prices quoted do not, however, seem to affect the state of the buying section of the market. Nearest nominal prices are:—London £9. 10s., Liverpool £9. 10s., Hull £9. 8s. 9d., Leith £9. 7s. 6d. Nitrate quiet.

REPORT ON MANURE MATERIAL.

There seems to be rather more disposition on the part of buyers to be considering their supplies of material for next season, but only concessions on the part of sellers seem to lead to any important business. The quotations for mineral phosphates are unchanged. There is bidding going on, but too low for the most part to admit of business, buyers being indifferent and in no hurry. River Plate bones are inquired for, and cargoes of handy size are worth £4 5s. per ton, delivered to good United Kingdom ports, but suitable vessels are very difficult to find in the Plate, and at the moment there are no small cargoes offering. Crushed Kurrachee bones offer at £4. 5s. per ton, and this price would probably do for ordinary quality Bombay bone meal, autumn shipment. £4. 7s. 6d. per ton asked for finer marks. Nitrate of soda is quiet in all positions. On spot the value of ordinary quality is 8s. 1½d. per cwt., and of fine quality 8s. 3d. per cwt. Autumn shipments are not now worth over about 8s. 1½d., ordinary quality; 8s. 3d. to 8s. 4½d. per cwt. for refined.

MISCELLANEOUS CHEMICAL MARKET.

There is a firmer tone in the market for alkalis. There is no change meantime, however, in the quotation for 58% alkali, but the arrangements in progress between the larger manufacturers will doubtless lead to a material advance in price. In the meantime no forward quotation is obtainable. Caustic soda meantime unchanged, and spot quotations are:—F.o.b. Liverpool, 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 60%, £6. 10s.; 10 ton lots and upwards. Soda crystals and bicarbonate are without alteration, as are also chlorate of potash and soda. Bleaching powder is in rather better request for export, at £7. 5s., f.o.b. Liverpool, and £6. 17s. 6d. to £7. f.o.r. makers' works. In sulphur there is no change, but works are well engaged with orders at £3. 12s. 6d. to £3. 15s. f.o.r. Sulphate of copper steady, with firmer tendency, at £15. 5s. to £15. 10s. f.o.b. White powdered arsenic still in good demand, and with short supply, price is firmer, at £15. 5s. to £15. 10s. f.o.r. Nitrate of soda 7s. 10½d. to 8s. Brown acetate of lime has a slightly firmer tendency for forward delivery, spot quotation being £5. 10s. to £5. 12s. 6d. at Manchester. For grey acetate of lime there is no demand. White sugar of lead lower, at £22. 10s. Brown sugar of lead, £14. 10s. Demand continues active for potash, caustic, and carbonate, and prices are firm. Yellow prussiate of potash 7¾d., with some odd lots offering at 7½d. Prussiate of soda 6½d. per lb. Sulphocyanides are without alteration in value. Borax and boracic acid are still offering at low rates. Tartaric acid is slightly firmer, at 11½d. to 11¾d. Green copperas is moving steadily, and with limited supply slightly better prices are obtainable. General demand for chemicals is still reported quiet in all manufacturing districts.

LIVERPOOL MINERAL MARKET.

The improvement in our market reported last week has not only been maintained, but has been confirmed by further advances in most minerals. Manganese is very much stronger, and prices have an upward tendency; stocks are small, whilst imports are being kept back in consequence of the recent low prices. There is no doubt that the pressing demand for the manufacture of ferro-manganese will cause an early and springing advance. Ground manganese is in good steady demand at £6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous ore: Following in the wake of manganese there is

rather more inquiry for this, and prices are firmer. Bauxite is in good demand, both for chemical and aluminium metal purposes, with proposals for large engagements; prices are consequently firm at 20s. per ton for first quality, 16s. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. Chrome ore: Arrivals have been about the average, but as they were all sold for forward delivery they have gone direct into consumption; prices are therefore unaltered, with the exception of an increase of about 2s. 6d. to 5s. per ton for prompt delivery. French chalk: Arrivals have been steady, and prices are unaltered, whilst good business is being done in both home and foreign consumption. Plumbago: This article continues to meet with a steady demand for foundry and lubricating purposes at £6. to £8. 10s. per ton; other qualities are also well inquired for at proportionate figures. Barytes: Carbonate is still rather quiet, but prices remain firm at about 70s. per ton for smalls, and 85s. to 110s. per ton for lump, according to grade; sulphate is in better demand for both the lump and powdered, prices remaining very firm at 60s. for No. 1, 55s. for No. 2, and 47s. 6d. to 50s. per ton for No. 3. Wolfraim and scheelite have experienced some improvement, stocks being scarce and the recent low figures being against importations. Fuller's earth is in fairly good demand at unaltered prices. Ochre is in rather better demand at unaltered prices.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is easy, with Accra at £18. 10s., and Lagos £20., the latter on spot. Olive keeps steady, with a moderate business doing. Linseed is now being firmly held for 22s. 6d. to 23s. per cwt. for Liverpool makes in export casks. Cottonseed is steady, Liverpool refined being quoted 18s. to 18s. 6d., and American 18s. 6d. per cwt. Castor oil is quiet, with good seconds Calcutta at 2d. to 2½d., and first pressure French 2d. to 2½d. per lb. Tallow is in limited demand, without any change in prices. Resin is fairly well inquired for, with a slight easing in prices. Spirits of turpentine are experiencing a moderate inquiry, at 21s. 6d. per cwt. Petroleum is firm, holders being steady at 6¼d. to 8½d. for American, and 6d. per gallon for Russian.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15. Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead unchanged. Venetian red, £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide, £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—Business here is assuming more settled conditions. The imports into Hull up to date, compared during the same period a year ago, have been: Linseed, 312,063 qrs., against 274,706 qrs.; rapeseed, 88,503 qrs., against 66,441 qrs.; cottonseed, 106,750 tons, against 123,785 tons; olive oil, 7,687 casks, against 14,007 casks; rape oil, 5,130 casks, against 4,685 casks; oil cakes, 8,606 tons, against 10,064 tons; tallow, 8,285 cwt., against 13,251 cwt.; turpentine, 12,708 brls., against 12,853 brls. Linseed oil is firm, owing in a measure to limited supplies and a somewhat better demand: Spot, 20s. 9d., naked; August, 20s. 6d., buyers; September-December, 19s. 6d.; boiled and refined from £1. to £1. 10s. per ton extra. Refined cotton oil has improved about 10s. per ton, closing steady at 16s. 3d., naked spot; August-October quoted 16s. 6d., at which rate business has been done for November-April. Crude, 14s. 6d., naked spot. Casks 17s. 6d. and barrels 27s. 6d. per ton extra. The export for the week has been 1,900 cwt. of refined cotton oil, and the same quantity of linseed oil. Spirits of turpentine, 22s. 3d. per cwt. Castor oil unchanged. Siccative oil, £13. per ton. New wool oil for carding purposes, £13. 10s. per ton. Cod oil, £17. to £19. per ton. Liquid soap for laundry work, etc., £14s. 10s. per ton. Olive oil unchanged.

CAKES.—Linseed cakes are 2s. 6d. per ton dearer, but buyers do not readily respond: 95% pure, £6. 2s. 6d. to £6. 5s.; Russians, £5. 15s. Oil cakes, £5. 5s. to £5. 7s. 6d. Cotton cakes a very firm market with better demand: best makes, £4.; seconds, £3. 15s. Rape cakes unchanged.

PAINTS.—Demand for these goods has improved. Prices are: Oxide of iron, blue venetian red, black and yellow ochre, paints, from £11. per ton; dry mineral colours range from £4. to £5. per ton; paint remover, no better request, 25s. to 30s. per cwt.; imperial black varnish, £5. 10s. per ton; oak varnish, from 5s. 6d. per gallon.

TYNE CHEMICAL REPORT.

TUESDAY.

There is no change to report in prices. Market still continues firm. Caustic, 76/77%, in demand, at £9. 10s. per ton. Sulphur firmer, and at £3. 17s. 6d. Soda crystals, £1. 17s. 6d. per ton, weight, locally. Other prices as under:— Bleaching powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton; caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. on, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; ash, 48%, £3. 15s. per ton, nett; do., 52%, £4. 2s. 6d. per ton, nett; do., 56%, £4. 10s. per ton, nett; alkali, 36%, £2. 15s. on, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. per ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of 5-7 cwt. casks, £6. per ton, nett; do., 1 cwt. kegs, £6. 12s. 6d. on, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. on, nett; soda crystals, casks, £1. 17s. 6d. per ton, weight; do., 2 cwt. bags, £1. 17s. 6d. per ton, nett; ate of potash, 5¼d. per lb., less 6%; pearl hardening, per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. on, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. per ton, nett.

LT.—South Durham salt is quoted at 9s. to 9s. 6d. per ton, Tyne.

ALS.—Business remains quiet but steady here, the principal aid being by steam coals. Prices are quoted as under: Best Cumberland steam, 8s. 9d. to 9s. per ton; second qualities ditto, 8s. to 8s. 9d. per ton; small steam, 3s. 6d. to 3s. 9d. per ton; gas coals, 1s. to 6s. 9d. per ton; bunker coals, 6s. 3d. to 8s. per ton; 12s. 6d. to 13s. 6d. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

This week will see production restored to its normal volume after holidays, but there is no prospect of anything like activity in the time. The talk of an extension of the syndicate principle in the manufacture and marketing of chemicals, coupled with the prospect of official rise of prices, may induce some forehanded business of a speculative kind, but there are no signs in that direction as yet. Prices are fully maintained, and the demand is really languid. This is equal to sulphate of ammonia, which lingers about £9 10s. for it, with an occasional drop below that on the part of an impatient dealer, and as for forward business the sheet at present is a blank. Soda also is weak. Representatives of all the Scottish Oil companies met last week to consider about the price of burning oil for the new season soon to begin, but decision was deferred for a week or ten days. It is likely that the late advance of 2d. per barrel will be at least maintained, if not increased. The other paraffins in fair market request at, if anything, enhanced values.

Current prices are:—Soda crystals, 35s. nett, Tyne; ash, 48/52°, £3. 15s. to £4. 10s. nett, Tyne; white alkali, £4. 10s. to £5. 5s. nett, Tyne; alum in lump, £5. 10s. nett, Tyne; caustic soda, white, 74° £9. 70/72° £7. 15s., 60/62° 5s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching powder, £6. 5s. to £7., nett, Tyne; saltcake, 15s.; borax, English, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool;

bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¼d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 5d. less 5%, Liverpool; nitrate of soda, 8s. to 8s. 4½d.; sulphate of ammonia, £9. 10s. prompt, f.o.b. Leith; salammuniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 12s. 6d., less 5%, Liverpool; paraffin scale, hard, 2½d.; and soft, 1½d. to 2½d. per lb.; paraffin wax 120° semi-refined, 2½d. to 2¾d.; paraffin spirit (naphtha), 7d. per gallon; paraffin oil (burning), No. 1 6½d., and crystal 6¾d., at works, for Scotch buyers (English sales 1d. lower); ditto (lubricating) 86s°, £4. 5s. to £4. 10s.; 88s° £4. 15s. to £5., and 890/895° £5. to £6. Week's imports of sugar at Greenock were again nil.

New Companies.

Benjamin Brooke & Co., Ltd.—CAPITAL £250,000., in £5. shares (of which 20,000 are cumulative preference). This company has been formed to acquire and carry on the business of soap, candle, paper and varnish makers, seed crushers, &c., formerly carried on at Philadelphia, U.S.A., under the title of Benjamin Brooke and Co. The subscribers to the memorandum of association are:—S. Gross, 19, Queensboro' Terrace, W., merchant; A. S. Marks, 25, Clanricade Gardens, W., gentleman; C. Herold, 20, London-road, Croydon, gentleman; A. S. Jecks, 24, Austin Friars, E.C., solicitor; W. H. Fordham, 36, York-road, King's Cross, clerk; W. B. Fordham, Holly Mount, Hendon, gentleman; D. Williams, 70, Kynaston-road, Stoke Newington, clerk.

Edward Packard & Co., Ltd.—CAPITAL £100,000., in shares of £10. each. This company has been formed to acquire the business of E. Packard, jun., and W. H. Packard, at Ipswich and elsewhere, and to trade as sulphuric, acid and chemical manufacturers, artificial and chemical manure makers. The subscribers to the memorandum of association are:—E. Packard, J.P., Pembroke House, Ipswich; E. Packard, jun., J.P., Grove House, Bramford; H. W. Packard, Crane Hall, Ipswich, merchant; Rev. O'B. Packard, Depdene Rectory, Bury St. Edmunds; Miss A. E. Packard, Pembroke House, Ipswich; H. A. Packard, L. and R. A., Crane Hall, Ipswich; E. T. Packard, 2, Garden-court, Temple, barrister.

African Saltpetre Co., Ltd.—CAPITAL £300,000, in £1. shares. This company has been formed to purchase 6 potassium nitrate farms in South-west Africa (Griqualand), and to work the same. The subscribers to the memorandum of association are:—W. Smith, Kent House-road, Beckenham, clerk; R. M. Rands, 46, Queen Victoria-street, E.C., clerk; C. Forbes, 1, Elspeth-road, S.W., clerk; H. W. Butler, 1, Blackburn-road, W. Hamstead, accountant; W. Rampling, 64, Gloucester-road, Peckham, clerk; W. Fowke, 89, Antil-road, Bow, manager; J. Gardner, 40, Fitzroy-street, W., clerk.

Gazette Notices.

PARTNERSHIP DISSOLVED.

Z. SHAW, W. SHAW, T. JACKSON, and E. WILLIAMS, executors of the will of David Shaw, late of Clayton, Manchester, oil refiner and manure manufacturer, and J. Ross, oil refiner and manure manufacturer, Clayton, and Bredbury, Cheshire, under the style of D. Shaw and Co.

IMPORTS OF CHEMICAL PRODUCTS

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending July 20th.

Acid—
Ind., 70 pkgs. F. J. Putz & Co.
150 Beresford & Co.
314 A. & M. Zimmermann
Alum—
Ind., 1 pkge. T. H. Lee
any, 4 T. Palmer
10 Chilworth Gunpowder Co.
Antimony Chloride—
Ind., 4 pkgs. J. Owen
3 H. Lorenz
Iron—
any, 10 pkgs. T. H. Lee
gal., 22 J. Hall, jun., & Co.

Asbestos—

Canada, £8 G. W. Wheatley & Co.
Italy, 60 B. & N. Whys. Co.
France, 9 Mory & Co.
Canada, 12 Sry. Dk. Co.

Barytes—

Belgium, 34 cks. S. H. Willoughby
108 A. Zumbach & Co.
Holland, 77 J. L. Lyon & Co.
" 46 Hemingway & Co.
Germany, 200 bgs. W. Harrison & Co.
Belgium, 216 pkgs.
Holland, 11 W. Pope & Co.
" 31 W. Harrison & Co.

Bleaching Soda—

Belgium, 67 pkgs. H. Wallace & Co.

Bromide of Iron—

Germany, 23 pkgs. A. & M. Zimmermann

Camphor—

Germany, 4 pkgs. T. H. Lee
4 bris. L. & I. D. Jt. Co.

Caoutchouc—

Germany, 6 c. Wallace Brs.
Zanzibar, 18 S. Figgis & Co.
E. Indies, 193 Huttenbach & Co.
Ibo, 63 Forbes, Forbes & Co.
Zanzibar, 45 Clarke & Smith
" 25 Hale & Son
" 8 Wallace Brs.
Madagascar, 5 J. T. Morton
Germany, 113 L. & I. D. Jt. Co.
E. Indies, 21 S. Figgis & Co.
" 414 L. & I. D. Jt. Co.
Zanzibar, 307 "

Madagascar, 60

Rangoon, 12 "
France, 95 H. Johnson & Sons
Zanzibar, 11 Forbes, Forbes & Co.
Cape, 30 Hammond & Co.
E. Indies, 18 Henderson Brs.
E. Africa, 18 Prop. Bull Wf.
U. States, 9 L. & I. D. Jt. Co.
E. Africa, 102 Ralli Brs.
E. Indies, 48 " "
Rangoon, 19 A. Howden & Co.

Castor Oil—

E. Indies, 100 cs. C. D. Jennings & Co.
" 150 pkgs. Ross & Deering
" 81 cks. Cayzer, Irvine & Co.
Italy, 10 W. G. Frith & Co.

E. Indies, 50	McKellar, Carr & Co.	500	Fellows, Morton & Co.	Potassium Sulphate —	Germany, 508 pkgs	D. de Pass & Co.	Zinc Oxide —	Holland, 500 cks.	Soundy & Sons				
Belgium, 20 brls.	Anderson, Weber & Smith	Tanner's Bark	Natal, 100 t.	A. & W. Nesbitt	Pumice Stone —	Italy, 5 t.	O'Hara & Hoar	" 35 brls.	M. Ashby, Ltd.				
Italy, 12 45	City Coml. Wf., Ld.	" 6	Boucher, Mortimore, & Co.	Turmeric	" 2	Blundell, Spence, & Co.	" 197 cks.	" 197 cks.	J. Matton				
" 35	Major & Field	E. Indies, 500 pkgs.	Prop Bull Wf	" 250	" 11	T. Hill Jones	LIVERPOOL.						
" 10	A. F. White & Co.	" 525	Anderson, Weber & Smith	" 500	" 2	Stobbs, Wilson, & Co.	<i>Week ending July 18th.</i>						
France, 30	Lucas & Co.	" 1,179	Marshall & French	" 420	" 3	Acton & Borman	Acetate of Lime —	New York, 864 bgs.	Manchester Ship Canal Co				
Italy, 30 pkgs.	Spencer's Wf., Ld.	" 334	L. & I. D. Jt. Co.	" 183	" 13	C. J. Capes & Co.	" 3,372						
Caustic Potash —		" 420	H. A. Litchfield	Pyrites —	Spain, 2,031 t.	C. Tennant, Sons, & Co.	Acetic Acid —	Rotterdam, 20 blns.					
France, 20 drs.	Spies Brs. & Co.	Valonia	A. Turkey, 10 t.	M. D. Co.	Rosin	U. States, 500 brls.	E. Cook	Alum —	Alexandria, 28 bgs.				
Chemicals (otherwise undescribed)		" 50	Anning & Cobb	Farina —	France, 14	C. W. Schmitz	G. S. N. Co.	Antimony Ore —	Antofagasta, 136 sks.	A. Gibbs Sons & Co.			
Germany, 2 pkgs.	Phillipps & Graves	Glucose —	Germany, 10 pkgs	R. G. Hall & Co.	U. States, 300	F. & S. Chiesman & Co.	Moore & Hole	Barytes —	Antwerp, 100 bgs.				
Holland, 40	Beresford & Co.	" 250	W. Ritchie & Son	Holland, 50	France, 10	G. Ward & Sons	Saltpetre —	Germany, 58 cks.	P. Hecker & Co.				
Germany, 5	L. & I. D. Jt. Co.	" 420	S. Figgis & Co.	Salicylates —	Holland, 3 pkgs.	J. Barber & Co.	Soda —	France, 220 c.	J. A. Reid				
Holland, 6	J. Barber & Co.	Glucose —	France, 50 pkgs.	400 c.	S. M. Frankenstein & Co.	Saltpetre —	Germany, 58 cks.	P. Hecker & Co.	Petri Brs.				
Germany, 95	T. H. Lee	" 250	1,435 c.	L. Suro & Co.	U. States, 50	285 A. E. Piggott	Soda —	France, 220 c.	J. A. Reid				
Norway, 33	R. Greening	" 50	287 J. T. Morton	" 50	200	Fellows, Morton, & Co.	Sodium Hyposulphite —	Holland, 116 pkgs.	Petri Brs.				
U. States, 50	Anderson, Weber & Smith	" 1,777	5,852	L. Suro & Co.	" 50	284 J. Keiller	Starch —	Belgium, 92 pkgs.	F. Claydon & Co.				
France, 2	Flageolet & Co.	" 50	284	J. Keiller	Germany, 13	105 M. D. Co.	Germany, 90	Phillipps & Graves	T. H. Lee				
Holland, 17	T. Palmer	" 50	300	T. J. Lipton	U. States, 50	300	Page, Son, & East	Carbon Black —	New York, 3 brls.				
" 20	Typk & King	" 50	300	Page, Son, & East	Glue —	6617	Lead Acetate —	France, 10 pkgs.	F. Smith				
Germany, 104	A. & M. Zimmermann	" 50	300	Page, Son, & East	Manure —	Holland, 2 t.	J. Owen	Germany, 30	Phillipps & Graves				
Holland, 11	E. Merck	" 50	300	Page, Son, & East	Methyl Alcohol —	Belgium, 17 cks.	Stein Brs.	" 14	5 dms.	Franken & Lorenz			
Belgium, 23	T. Palmer	" 50	300	Page, Son, & East	Mica —	E. Indies, 4315	W. M. Smith & Sons	Molasses —	U. States, 1,200 cks.	6,300 c.	J. Newcomb		
Cream of Tartar —		" 50	300	Page, Son, & East	Ochre —	France, 81 cks.	T. Cartwright	" 218	W. Harrison & Co.				
Spain, 8 pkgs.	W. C. Bacon & Co.	" 50	300	Page, Son, & East	Paraffin Wax —	U. States, 79 brls.	Atlantic Wf. Oil Co.	" 100	Anglo-American Oil Co.				
France, 2	G. Ward & Sons	" 50	300	Page, Son, & East	Phosphate Rock —	France, 250 t.	A. Hunter & Co.	" 150	"				
Portugal, 60	Knowles & Co.	" 50	300	Page, Son, & East	Plumbago —	Germany, 66 cks.	B. Gallaway	" 20 bgs.	B. & F. Wf. Co.				
France, 20	W. C. Bacon & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 10	M. Ashby, Ld.	" 50	300	Page, Son, & East	Phosphoric Acid —	Holland, 120 c.	R. W. Greeff & Co.	" 10	"				
Holland, 75	Kirkpatrick & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
France, 6	C. Atkins & Nisbet	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 27	B. & F. Wf. Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Dextrine —		" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Germany, 10 pkgs.	City Coml. Wf.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
France, 20	C. A. Comyn	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Dyestuffs —		" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Argols		" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Italy, 624 pkgs.	B. Jacob & Sons	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
France, 52	B. & F. Wf. Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Cochineal		" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Canaries, 13 pkgs.	G. S. Bruce	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 13	W. M. Smith & Sons	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 10	J. Owen	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 4	Kuhner, Henderson & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Cutch		" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Rangoon, 500 pkgs.	Leach & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 500	Hoare, Wilson & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
E. Indies, 1,000	Henderson Brs.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Divi Divi		" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Ceylon, 89 pkgs.	Major & Field	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Extracts		" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
U. States, 100 pkgs.	A. J. Humphery	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Germany, 15	T. H. Lee	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
France, 20	"	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Germany, 4	Elkan & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
France, 22	Union L. Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 8	Beresford & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Gambier		" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Germany, 29 pkgs.	S. Figgis & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
E. Indies, 450	W. Balchin	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 917	Brinkmann & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 179	S. Barrow & Bor., Ld.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 442	G. Ward & Sons	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 1,297	R. & J. Henderson	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Indigo		" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
E. Indies, 38 cmts.	Ross & Deering	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 23	Croysdale & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 6	F. Huth & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 65	Park, Macfadyen & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 81	L. & I. D. Jt. Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 10	Wallace Brs.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 4	Arbuthnot, Latham & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 30	R. Von Glehn & Sons	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 4	W. Brandts, Son & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Holland, 3	J. Barber & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Myrabolams		" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
E. Indies, 667 pkgs.	Brown & Elmslie	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 1,366	J. Kitchin, Ld.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 667	Whitstable S. Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 2,726	L. & I. D. Jt. Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 2,033	Beresford & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 1,365	W. Shelcott	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 430	Dalton & Young	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Shumac		" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
Italy, 20 pkgs.	Blundell, Spence, & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 350	Beresford & Co.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 200	W. Shelcott	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 500	Harris Brs	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				
" 1,150	J. Kitchin, Ld.	" 50	300	Page, Son, & East	Phosphoric Acid —	Germany, 2 c.	W. J. Crook	" 10	"				

50 brls.	
98	
54 cks.	
135	
8 cks.	W. Newman & Co.
22	Inglis & Wolff
40 bgs.	R. J. Francis & Co.
1	
1,570 t.	N. Waterhouse & Sons
Earth—	
65 bgs.	
154 brls.	W. & J. Lockett
2 cs.	J. T. Fletcher & Co.
Oil—	
2 brls.	
White—	
100 bgs.	
66 brls.	R. J. Francis & Co.
61 cks.	
Rock—	
na, 2,900 t.	R. Silcock
S.C., 2,750	
na, 10 cs.	
0—	
20 bgs.	
alts—	
102 bgs.	
m Carbonate—	
6 cks.	
4,999 t.	Matheson & Co.
1,000 brls.	
rk, 1,000	
3 cs.	Brodersen Vaughan
e—	
4 brls.	
ulphide—	
17 sks.	Hainsworth Watson
7 bxs.	Shanghai Dispensary
15	Yuet Sung
9	Moclavish & Lehman, Ld.
264 cs.	
30	
phia, 6	
ne—	
100 bgs.	G. G. Blackwell, Sons & Co.
160	
am, 100 kgs.	
Silicate—	
am, 4 cks.	
74 cs.	
110 brls. 100 bxs.	J. Howard & Co.
140	J. T. Fletcher & Co.
210	
190	
12 bds.	J. T. Fletcher & Co.
15 bgs.	
10 cks.	
2 cs.	
Ore—	
1,300 t.	T. V. Bird & Co.
1,458 t.	Matheson & Co.
208 tcs.	
204 pps. 8 hf.-pps.	W. Poats & Co.
502	
480	
693 hds.	D. Brandt & Co.

Tartar—	
Bordeaux, 18 cks.	
Tartaric Acid—	
Bordeaux, 2 cs.	
Rotterdam, 12 cks.	
Treacle and Molasses—	
New York, 200 brls.	R. Crooks & Co.
N. Orleans, 250	
1,200	
Bordeaux, 4 cs.	
Philadelphia, 3,250	
Varnish—	
Antwerp, 1 ck. 20 jugs	
Rotterdam, 2	
Verdigris—	
Bordeaux, 3 cks.	
White Lead—	
Antwerp, 25 cks.	
Rotterdam, 28	
Wood Pulp—	
Rotterdam, 205 bls.	
Gotenburg, 50	G. F. Green & Co.
Zinc Oxide—	
New York, 80 brls.	T. Ellis & Co.
Antwerp, 75	
Zinc Skimmings—	
New York, 9 cks. 181 bgs.	

MANCHESTER.

Week ending July 20th.

Acetic Acid—	
Rotterdam, 27 blns.	
Antwerp, 16	
Albumen—	
Hamburg, 7 cs.	
Alkali—	
Rotterdam, 6 cks.	
Alumina Sulphate—	
Rotterdam, 154 cks.	
Aniline—	
Treport, 3 dms.	Arnati & Harrison
Antimony—	
Rotterdam, 10 cks.	
Antimony Oxalate—	
Rotterdam, 4 cks.	
Castor Oil—	
Antwerp, 29 brls.	
Chemicals (otherwise undescribed)	
Rotterdam, 3 cks.	
Rouen, 35	
Colours—	
Ghent, 6 brls. 6 cs.	
Hamburg, 25 cks.	
Rotterdam, 41 24 199 brls.	
66 bxs.	
Dyestuffs—	
Alizarine	
Rotterdam, 111 cks. 1 cs.	
Extracts	
Ghent, 50 cks.	
Logwood	
Jamaica, 546½ t.	
Farina—	
Hamburg, 176 bgs	
Rotterdam, 910	
Gelatine—	
Rouen, 20 cs.	
Glue—	
Rotterdam, 41 bgs. 1 bskt	
Rouen, 28 cs. 18 cks. 20 bls.	
Hamburg, 5	
Limestone—	
Antwerp, 3 crts. 1 cs.	
Litharge—	
Rotterdam, 16 cks.	
Ochre—	
Treport, 43 cks.	Arnati & Harrison
Oxalic Acid—	
Rotterdam, 14 cks.	
Pitch—	
Rotterdam, 27 cks.	
Potash—	
Rouen, 5 cks. 4 dms.	
Sodium Nitrate—	
Rotterdam, 8 cks.	
Starch—	
Ghent, 200 cs.	
Antwerp, 215	
Rotterdam, 310	
Tallow—	
Rouen, 141 bgs.	
Tartar—	
Bordeaux, 2 cks.	J. & P. Hutchison

Tartar Emetic—	
Hamburg, 4 cks.	
Tartaric Acid—	
Rotterdam, 14 cks.	
Tin Perchloride—	
Antwerp, 5 cks.	
Ultramarine—	
Hamburg, 16 cks. 1 cs.	
Waste Salt—	
Hamburg, qty.	
Wood Pulp—	
Rotterdam, 155 bls.	
Zinc Oxide—	
Rotterdam, 50 brls.	
Zinc White—	
Rotterdam, 5 cks.	

HULL.

Week ending July 20th.

Acid—	
Rotterdam, 4 cks.	Hutchinson & Son
Alkali—	
Bremen, 4 cs.	Veltmann & Co.
Aniline—	
Dunkirk, 2 cks.	Wilson, Sons, & Co., Ld.
Barytes—	
Rotterdam, 12 cks.	W. & C. L. Ringrose
Antwerp, 155	Bailey & Leatham
Bone Meal—	
Hamburg, 250 bgs.	
Carbolic Acid—	
Hamburg, 5 brls.	
Chemicals (otherwise undescribed)	
Bremen, 6 cs. Veltmann & Co.	
" 1 ck. Patent Zinc Plate	
" Co., Ld.	
Dunkirk, 45 pks.	Wilson, Sons, & Co., Ld.
Antwerp, 108	
Hamburg, 1 ck. 8 pkgs. 3 cs.	"
Cod Oil—	
Drontheim, 2 brls.	Wilson, Sons, & Co., Ld.
Bergen, 6	"
Colours—	
Danzig, 10 cks.	Wilson, Sons, & Co., Ld.
Ghent, 3	J. Good & Sons
Amsterdam, 117 pks. 1 ck.	W. & C. L. Ringrose
Rotterdam, 306 cks.	Wilson, Sons, & Co., Ld.
Riga, 41 pks.	"
Antwerp, 25	"
Rotterdam, 12 74 76 brls.	"
13 bxs.	Hutchinson & Son
Dextrine—	
Stettin, 40 bgs.	Wilson, Sons, & Co., Ld.
Dyestuffs—	
Alizarine	
Rotterdam, 95 cks. 15 pks.	W. & C. L. Ringrose
" 4 brls.	Hutchinson & Son
Myrabolams	
Rotterdam, 20 bgs.	Wilson, Sons, & Co., Ltd.
Farina—	
Stettin, 998 bgs.	Wilson, Sons, & Co., Ld.
Ghent, 257 cs.	"
Antwerp, 150 bgs.	"
Hamburg, 100	"
Glucose—	
Stettin, 200 bgs.	Wilson, Sons, & Co., Ld.
New York, 600 brls.	"
Rotterdam, 40 bgs.	Hutchinson & Son
Glue—	
Stettin, 2 cks.	Wilson, Sons, & Co., Ltd.
Dunkirk, 5	"
Rotterdam, 4 bgs.	Hutchinson & Son
Hamburg, 55	"
Guano—	
Christiansund, 265 bgs.	Wilson, Sons, & Co., Ld.
Molasses—	
New York, 150 brls.	Wilson, Sons, & Co., Ld.

Naphthol—	
Rotterdam, 2 cks.	W. & C. L. Ringrose
Paint—	
New York, 10 brls. 65 cs. 35 pkgs.	Wilson, Sons, & Co., Ld.
Plumbago—	
Antwerp, 10 bgs.	Bailey & Leatham
Potash—	
Rotterdam, 8 cks.	W. & C. L. Ringrose
" 5	Hutchinson & Son
Pyrites—	
Huelva, 834 t.	
Salt—	
Rotterdam, 1 ck.	Hutchinson & Son
Saltpetre—	
Rotterdam, 2 cks.	Hutchinson & Son
Soap—	
Rotterdam, 2 cs.	W. & C. L. Ringrose
Starch—	
Bremen, 1,339 cs.	Veltmann & Co.
Ghent, 178	Wilson, Sons, & Co., Ld.
Rotterdam, 35	Hutchinson & Son
Antwerp, 220	Bailey & Leatham
Stearine—	
Antwerp, 62 bgs.	Bailey & Leatham
Bordeaux, 100	Rawson & Robinson
Sulphur—	
Hamburg, 30 cks.	Bailey & Leatham
Tallow—	
St. Petersburg, 25 cks.	
Amsterdam, 17	J. Good & Sons
Tar—	
Christiania, 1 brl.	Wilson, Sons, & Co., Ld.
Tartar—	
Bordeaux, 10 cks.	Rawson & Robinson
Tartaric Acid—	
Rotterdam, 4 cks.	Hutchinson & Son
Tin Oxide—	
Rotterdam, 3 cks.	W. & C. L. Ringrose
Treacle—	
New York, 100 brls.	Wilson, Sons, & Co., Ld.
Ultramarine—	
Rotterdam, 12 cks.	Hutchinson & Son
Amsterdam, 8	J. Good & Sons
Yarnish—	
Hamburg, 1 ck.	Wilson, Sons, & Co., Ld.
New York, 27 brls.	Wilson, Sons, & Co., Ld.
White Lead—	
Rotterdam, 28 cks.	W. & C. L. Ringrose
Amsterdam, 18	J. Good & Sons
Rotterdam, 37	Hutchinson & Son
Wolfram Ore—	
Hamburg, 10 cs.	Wilson, Sons, & Co., Ld.
Wood Pulp—	
Helsingfors, 29 bls.	Furley & Co.
" 110	Wilson, Sons, & Co., Ld.
" 25	Bailey & Leatham
" 310	"
Zinc White—	
Rotterdam, 25 cks.	W. & C. L. Ringrose
Amsterdam, 25	J. Good & Sons

GLASGOW.

Week ending July 25th.

Acetate of Lime—	
New York, 809 bgs.	
Aniline—	
Rotterdam, 93 cks. 17 cs.	J. Rankine & Son
Arachide Oil—	
Rotterdam, 1 ck.	J. Rankine & Son

Asbestos — Rotterdam, 2 bls. J. Rankine & Son	Soap — New York, 680 brls.	Carbonic Acid — Hamburg, 2 cbys. Tyne S. S. Co.	Colours — Hamburg, 8 cks
Barium Sulphate — Antwerp, 200 bgs.	Starch — Antwerp, 20 cs.	Cod Oil — Bergen, 2 brls.	Dyestuffs — Allizarine
Barytes — Rotterdam, 40 cks. J. Rankine & Son	Ghent, 20	Colours — Hamburg, 2 cks. Tyne S. S. Co.	Rotterdam, 92 cks
Hamburg, 25 1,000 bgs. E. Sangino	Rotterdam, 38	Rotterdam, 6	Extracts
Chemicals (otherwise undescribed)	Tallow — New York, 20 tcs.	Farina — Hamburg, 40 bgs. Tyne S. S. Co.	Rouen, 50 cks
Hamburg, 4 cs.	Tartar — Oporto, 5 cks.	Glucose — New York, 200 brls. Furness, Withy, & Co.	Dyestuffs (otherwise)
Chromium Chloride — Rotterdam, 1 brl. J. Rankine & Son	Treacle — Philadelphia, 300 brls. Waddell & Bryson	Limestone — Antwerp, 9 crts. Tyne S. S. Co.	Rotterdam, 225 cks
Colours — Rotterdam, 6 cks. 1 cs. J. Rankine & Son	Waste Salt — Hamburg, 200 t.	Salt — Oporto, 258 t. Ogilvie & Son	Boulogne, 23
Hamburg, 9 92 pkgs.	White Lead — Rotterdam, 11 cks. J. Rankine & Son	Soap — Rotterdam, 4 cs. Tyne S. S. Co.	Farina — Hamburg, 400 bgs
Dyestuffs — Allizarine	Antwerp, 3	Starch — Rotterdam, 170 cs. Tyne S. S. Co.	Hamburg, Delfsdyk, 1,120
Rotterdam, 298 pkgs.	Wood Pulp — Rotterdam, 60 bls. J. Rankine & Son	Stearine — Rotterdam, 7 bls. Tyne S. S. Co.	Antwerp, 20
Argols	Oporto, 400	Tartaric Acid — Rotterdam, 8 cks. Tyne S. S. Co.	Potash — Rotterdam, 34 cks
Bordeaux, 42 cks.	Drontheim, 160	Waste Salt — Hamburg, 190 bgs. Tyne S. S. Co.	Dunkirk, 26
Cutch	Sandswall, 7,812	Harburg, 260 t. Clephans & Wiencke	Calais, Antwerp, 5
Rangoon, 299 bxs.	Christiania, 200	White Lead — Antwerp, 11 cks. Tyne S. S. Co.	Saltpetre — Hamburg, 21 cks
Extracts	1,544	Wood Pulp — Trondhjem, 40 bls.	Antwerp, 71 bgs
Antwerp, 7 cks.	Zinc Oxide — Antwerp, 40 cks.	Christiania, 65 cs.	Tartaric Acid — Rotterdam, 2 cks
Glucose — Philadelphia, 150 brls.	Zinc Sulphate — Rotterdam, 5 brls. J. Rankine & Son	Skien, 50 t.	Varnish — Antwerp, 68 cks
Kelp — Stavanger, 1,605 sks. A. C. Fairlie & Co.	Zinc White — Rotterdam, 125 cks. J. Rankine & Son	Gothenburg, 98 pkgs.	Waste Salt — Hamburg, 201 cks
" 1,695		Zinc Oxide — Antwerp, 15 brls. Tyne S. S. Co.	
Paint — New York, 3 brls.	TYNE.		GRIMS
Painters' Colours — Antwerp, 12 cks. 9 cs.	<i>Week ending July 20th.</i>	GOOLE.	<i>Week ending July 17th.</i>
Paraffin Scale — Philadelphia, 150 brls.	Alum Cake — Rotterdam, 100 bgs. Tyne S. S. Co.	Alkali — Calais, 2 cs.	Albumen — Dieppe, 15 cs.
Rangoon, 330 cs.	Alum Earth — Hamburg, 20 cks. Tyne S. S. Co.	Antimony — Boulogne, 3 cks. 1 cs.	Caoutchouc — Hamburg, 2 cs.
Potash — Montreal, 38 brls.	Arsenic — Hamburg, 10 cks. Tyne S. S. Co.	Caoutchouc — Boulogne, 3 cks.	Chemicals (otherwise)
Pyrites — Huelva, 1,351 t. Tharsis Co.	Barytes — Antwerp, 400 bgs. Tyne S. S. Co.		Rotterdam, 3 cks
Rosin — New York, 750 brls.			Hamburg, 4
Saltpetre — Hamburg, 23 cks.			Coal Tar Dyes — Hamburg, 2 cs.

EXPORTS OF CHEMICAL PRODUCTS

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON. <i>Week ending July 24th.</i>	Dunedin, 10 8 100	Aniline Oil Dunkirk, 10 drs. £250	Copper Sulphate — Rotterdam, 4 t.
Alkali — Timaru, 10 t. £20	Brisbane, 8 1 60	Aniline Salts Genoa, 5 cks. £25	Sydney, 3
Vera Cruz, 1 1 c. 10	Newcastle, 20 20 cs. 13	New York, 38 180	Bordeaux, 10
Bombay, 8 5	Otago, 3 13 77	Anthracene Dusseldorf, 319 cks. £1,834	Cream of Tartar — Launceston, 1
Ammonia — Cape Town, 12 cs. £16	Sydney, 1 13 37	Benzol Rotterdam, 27 drs. £145	Auckland, 1
Ammonia Alkali — Auckland, 10 t. 5 c. £39	Melbourne, 1 13 37	Stockholm, 1 dm. 7	Rockhampton, 3 pkgs
Ammonium Carbonate — St. Petersburg, 26 t. 1 c. £1,480	Napier, 3 3 18	Carbolic Acid Libau, 30 cks. £193	Dunedin, 1
Brisbane, 2 cs. 15		Paris, 15 31	Sydney, 2 t.
Ammonium Chloride — Galatz, 6 c. £11	Chemicals (otherwise under.)	Treport, 35 70	Gisborne, 1
Constantinople, 2 t. 10 88	Harlingen, 2 t. 16 c. 147	Rotterdam, 48 180	Disinfectants — Wellington, 15 cs. 2
Batoum, 2 73	Shanghai, 3 cs. 26	Antwerp, 28 cans 38	Odessa, 6 cs.
Ammonium Nitrate — Billao, 35 cks. £160	Auckland, 20 10 kgs. 126	Marseilles, 5 15	Jamaica, 10
Ammonium Sulphate — Hamburg, 100 t. £955	Maryboro', 20 19	Creosote Selzaeta, 23,500 gallons £123	Melbourne, 10
Arsenic — Sydney, 3 t. 5 c. £49	Bombay, 3 2 47	Naphtha Boulogne, 19 cks. £125	Auckland, 4
Melbourne, 5 2 70	Dunedin, 10 43	Naphthaline Treport, 200 bgs. £120	Cape Town, 2 t. 1
Borax — Sydney, 10 c. £10	Melbourne, 22 32 drs. 7 53	Hamburg, 2,086 330	Hamburg, 8 brls.
Carbon Bisulphide — B. Ayres, 1 t. 5 c. £24	Citric Acid — New York, 1 t. 5 c. £160	Pitch Antwerp, 915 t. 6 pkgs. £1,698	Manure — Gothenburg, 59 t.
Caustic Potash — Dunedin, 1 t. 1 c. £36	Rotterdam, 5 31	Havre, 10 22	Nitric Acid — Jersey, 48 carbs
Caustic Soda — Zanzibar, 2 t. 14 c. £30	Marseilles, 2 13	Dunkirk, 595 1,000	Shanghai, 6 cs.
Algoa Bay, 5 7	Antwerp, 5 28	Helsingfors, 275 471	Oxalic Acid — Rotterdam, 1 t. 1
Nelson, 3 4 30	Amsterdam, 4 drs. £91	Pyridine Bases Amsterdam, 4 drs. £91	Dunedin, 10 cs. 1
	Lisbon, 1 ck. £11	Stettin, 14 runs. 85	Sydney, 10 cs. 1
	Aniline Dyes	Tar Natal, 110 drs. 13	Melbourne, 1
	Sydney, 1 ck. £13	Helsingfors, 2,000 brls. 1,078	Potash Salts — Auckland, 30 t.
	Bourgas, 50 brls. 10	Toluol Boulogne, 31 cks. £101	Potassium Bichromate — Stockholm, 1 t.
	Wellington, 1 kg. 10 pkgs. 248	Coal Products (otherwise under.)	
	Brisbane, 1 21	Melbourne, 30 brls. £37	

Am Chlorate—	
phia 5 t.	£226
Am Cyanide—	
2 cs.	£10
rk, 20 cks.	133
ke—	
h, 145 t.	£109
re—	
ay, 9 c.	£15
ton, 1 t. 15	41
id, 10	10
me, 6 5	145
r, 5	119
urg, 1	21
	23
Dip—	
4 t. 10 c.	£100
20 drs. 10	
id, 14	25
abeth, 500	162
ay, 20 15	675
lon, 5 10 150	190
crystals—	
30 t.	£60
1 17 c.	5
Bicarbonate—	
ton, 1 t. 10 c.	£9
les, 10	71
1	8
id, 3	22
Bisulphite—	
me, 6 cs.	£12
Prussiate—	
rk, 17 cks.	£241
Sulphate—	
50 t.	£50
ro, 2 cs.	£31
ic Acid—	
15 c.	£10
c Acid—	
10 c.	£104
6	30

VERPOOL.

week ending July 24th.

of Lime—	
6 c.	£4
n—	
uz, 4 c.	£17
retta, 1 t. 16 c.	£9
rne, 1	6
1 10	8
1 7 2 q.	5
2 18	10
2 19 2	14
eo, 2 12 1	11
cs, 10 6 1	52
ia (Liquid)—	
4 c. 1 q.	£6
ium Carbonate—	
ewater, 1 t. 15 c.	£25
les, 10	19
1 10	52
ium Chloride—	
p, 1 t.	£41
ruz, 3 c. 2 q.	7
2	4
Janeiro, 2	4
2	30
ma, 1 15	42
1	35
y, 1 16	64
1	24
3	6
lam, 13 cks.	86
al, 2 10	60
dria, 7	259
6	11
ium Sulphate—	
a, 4 t. 10 c. 2 q.	£45
fe, 5 3	51
10 4	110
phia, 35 12 1	257
ing, 43	516
ma, 20 19	255
ia, 16 12	163
ny—	
y, 4 cks.	
—	
eo, 2 t. 14 c.	£45
—	
own, 5 bgs. 1 cs.	
phia, 5	
—	
am, 10 bgs.	

Bisulphite of Lime—	
Rangoon, 3 t.	£27
Bleaching Powder—	
Baltimore, 63 cks.	
Boston, 1,216	10 bxs.
B. Ayres, 83	
Ghent, 71	
Lisbon, 24	
Messina, 15	
Montreal, 76	
Naples, 31	
New York, 285	40 brls.
Patras, 7	
Pernambuco, 7	
Philadelphia, 82	
Rouen, 27	
San Sebastian, 60	
Vera Cruz, 30	
Bone Waste—	
Rouen, 8 t. 10 c.	£60
Borax—	
Valencia, 2 t. 16 c. 1 q.	£57
Callao, 2	43
M. Video, 11 3	12
E. London, 1 1 3	22
Winnipeg, 4	8
Algoa Bay, 1	21
Antwerp, 1 12 2	31
Rotterdam, 7 5	146
Hamburg, 13 3 1	256
Stockholm, 1 1	18
Melbourne, 1	18
Calcium Chloride—	
Sydney, 5 t. 7 c. 3 q.	£160
Napier, N. Z., 5 7	12
Melbourne, 11 4	25
Carbolic Acid—	
Philadelphia, 5 t.	£80
Rouen, 10 11 c.	321
Hamburg, 11 8	582
New York, 34 cs. 6 cks. 15 brls.	170
Cape Town, 14 c. 1 q.	10
Genoa, 25 2	90
Adelaide, 15	18
Castor Oil—	
Addah, 10 cs.	
Axim, 6	
Port Said, 3 brls.	
Caustic Soda—	
Acajutla, 35 dms.	
Adelaide, 60	
Alexandria, 60	
Baltimore, 575	
Barcelona, 490	
Bombay, 15	
Bordeaux, 15	
Boston, 50	
B. Ayres, 150	
Calcutta, 25	
Callao, 72	
Cape Town, 5 cs.	
Cartagena, 20	
Catania, 10	
Corral, 20	
Dunkirk, 30	
Galatz, 50	
Genoa, 340	
Halifax, 34	
Hamburg, 95	20 bxs.
Havana, 110	
Hiogo, 135	
Hong Kong, 35	
Jaffa, 10	
Karachi, 8	
La Guayra, 12	
Leghorn, 60	
Lisbon, 60	
Maranham, 10	
Mauritius, 100	
Melbourne, 16	
Messina, 108	
M. Video, 4	
Montreal, 35	
Naples, 40	
New York, 330	100 brls.
Odesa, 510	
Oporto, 50	
Palermo, 10	
Penang, 50	
Pernambuco, 50	
Philadelphia, 275	20 cks.
Pt. Natal, 15	
Quebec, 25	
Rangoon, 39	
Rio de Janeiro, 20	
Rotterdam, 148	
Rouen, 32	
San Francisco, 25	
San Sebastian, 30	
Santos, 130	
Seville, 250	
Sourabaya, 265	
Talcahuano, 100	

Tampico, 200	
Trinidad, 4	
Valparaiso, 75	24 kgs.
Vera Cruz, 15	
Wellington, 10	
Chemicals (otherwise undescribed)	
Salaora, 3 c.	£5
Rotterdam, 1 t.	38
Philadelphia, 12 18	425
Samsoun, 4	7
Paranagua, 1 2 q.	5
China Clay—	
Baltimore, 360 t.	
Barcelona, 10 cks.	
Boston, 1,600	
Calcutta, 15	
Maranham, 5	
Montreal, 147	
Oporto, 5	
Philadelphia, 550	
Coal Products—	
Alizarine Oil	
Rio de Janeiro, 16 cks.	
Aniline Colours	
Boston, 3 kgs.	
New York, 4 cks. 1 cs.	
Aniline Oil	
Genoa, 5 dms.	
St. Nazaire, 3	
Aniline Salts	
Boston, 23 cks. 9 cs.	
Genoa, 2	
New York, 14 25	
St. Nazaire, 25	
Venice, 6	
Creosote Oil	
Lisbon, 250 brls.	
Pitch	
Ibrail, 40 brls.	
Rouen, 2 cks.	
Tar	
Ibrail, 20 brls.	
Lome, 10	
Philadelphia, 100	
Tar Salts	
New York, 1 t. 1 q.	£45
Cobalt Oxide—	
Valencia, 3 q.	£23
New York, 3 c. 3	97
Copperas—	
Alexandria, 2 t. 8 c.	£5
Toronto, 11 16	16
Christiania, 1 17	1
Copper Sulphate—	
Sydney, 1 t.	£16
Barcelona, 4 19 c.	78
Calcutta, 8 15	125
Odessa, 10	142
Dunedin, 1 5	19
Ibrail, 10	8
Naples, 6 9 2 q.	97
Rouen, 73 17 3	1,070
Bordeaux, 312 11 1	4,647
Nantes, 611 13 2	8,473
Galatz, 3 1 3	49
Genoa, 72 1	1,086
Gothenburg, 1 8 1	22
Melbourne, 15	232
Santos, 5 3 2	83
Lisbon, 43 1 1	666
Leghorn, 5 1 3	76
Montreal, 2 13 1	41
New York, 30 3 1	468
Brindisi, 5 3	78
Disinfectants—	
Alexandria, 2 cs.	£9
Tangiers, 1 t. 4 c. 1 q.	14
Farina—	
Maranham, 20 bgs.	
Oporto, 20 sks.	
Gelstine—	
New York, 75 bxs.	
Glue—	
Cadiz, 1 cs.	
New York, 100 bgs.	
Shanghai, 20	
Gypsum—	
New York, 36 t. 8 c.	£126
Hypsulphite—	
Montreal, 50 kgs. 1 ck.	
Lime—	
Mauritius, 1 ck. 5 cs.	
Litharge—	
Winnipeg, 4 kgs.	
Magnesia—	
Havre, 106 cs.	
Tampico, 3	
Magnesium Chloride—	
Calcutta, 1 ck.	
Magnesium Sulphate—	
Winnipeg, 12 c. 1 q.	£14
Iquitos, 4 cs.	

Manganese Ore—	
Naples, 1 t. 15 c.	
New York, 15 t. 10	
St. John's, Nfld., 1 ck.	
Manganese Sulphate—	
Winnipeg, 2 cks.	
Manure—	
Valetta, 1 t.	£5
Gd. Canary, 20	70
Barbadoes, 20 8 c. 3 q.	49
Metallic Sodium—	
Rotterdam, 5 t.	£1,024
Mineral White—	
Oporto, 10 bgs.	
Vera Cruz, 26 cks.	
Muriatic Acid—	
Pernambuco, 1 t. 19 c.	£23
Ochre—	
Callao, 35 brls.	
Halifax, 10	
Hamburg, 110 bgs.	
St. John's, Nfld., 32 kgs.	
Oxalic Acid—	
Newcastle, N.S.W., 2 t. 5 c. 3 q.	£69
Vera Cruz, 5	10
Paint	
Addah, 12 dms.	
Almeria, 3 cks.	
Arecife, 2	
Bakana, 2	
Bangkok, 20	
Benin, 1 bx.	13 kgs.
Beyrout, 60	50
Bombay, 60	
Bonny, 12	
B. Ayres, 18 brls.	
Callao, 85 cs.	
Cienfuegos, 2	
Demerara, 1	
Halifax, 1 3	
Hamburg, 4	
Havana, 3	
Hong Kong, 100	
Iloilo, 1	
Larnaca, 3	
Leghorn, 3	
Manao, 4	
Manila, 5	
M. Video, 12	
P'ta Arenas, 11 cs.	
Rio de Janeiro, 12	
St. John's, Nfld., 96 tins 149 cks. 344 kgs.	
15 frks. 131 pkgs.	
San Juan, 6 cks. 262 kgs.	
Sierra Leone, 100	
Tripoli, 15	
Painters' Colours—	
Antwerp, 14 cks.	
Bilbao, 45	
Bombay, 18 cs.	747 kgs.
Boston, 1	75 brls.
B. Ayres, 50 20	£39 500
Callao, 2	
Cape Town, 2	
Corfu, 1	
Galatz, 200	
Hamburg, 25 bgs. 21	
Havana, 2 tcs.	
Iquique, 49 cs.	
Kingston, 10	
LaLib'r'd, 18	
Lisbon, 13	
Manila, 7	275
Odessa, 260	
Para, 1	4 23
30 frks. 2 tcs.	
Paris, 4	
Pernambuco, 30	
Philadelphia, 100	
Rio de Grande, 20	
Rotterdam, 25 bgs.	
St. Thomas, 2 cks.	
Salaora, 1 tce.	1
Salonica, 3 tcs.	1
Santos, 2 cs. 1	
Teneriffe, 2 3	
Trieste, 100 kgs.	
Valencia, 1	
Valparaiso, 1,513 cs.	90
Vera Cruz, 5	
Phosphorus—	
B. Ayres, 1 c. 1 q.	£11
Vera Cruz, 5 cs.	55
Guadalajara, 5	55
Havana, 6	78
Pieric Acid—	
Paranagua, 2 q.	£3
Plumbago—	
Cadiz, 5 cks.	
E. London, 1 tk.	
Potassium Bichromate—	
Vera Cruz, 1 t. 4 c. 1 q.	£50
St. Nazaire, 3	6
B. Ayres, 1 2	43

Potassium Chlorate—

Paranagua,	12 c.	£39
Calcutta,	13	35
New York,	24 L.	1,024
Callao,	6	12
Rotterdam,	2	162
Havana,	2	77
Santos,	2	70
Odessa,	1	59
San Francisco,	2	94
Hioogo,	10	392
Tampico,	1	5
B. Ayres,	1	64
St. Petersburg,	20	788
Antwerp,	2	111

Potassium Cyanide—

Curacao,	10 c.	£93
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Potassium Prussiate—

Vera Cruz,	4 c.	£16
Lisbon,	5	23

Potassium Stannate—

Bombay,	1 t. 10 c. 3 q.	£82
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Salt—

Adelaide,	10 t.	
Abonneima,	20	
Akassa,	300	
Algoa Bay,	7	17 c.
Alligator Pond,	5	18
Antwerp,	270	
Belize,	115	6
Boston,	370	
B. Ayres,	51	15
Calcutta,	9 229	
Callao,	1	17
Cameroon,	52	
Cape Lahou,	5	
Christiania,	5	
Coquimbo,	480	
Corral,	18	
Degana,	72	
E. London,	4	
Egwanga,	20	
Ghent,	60	
Gd. Lahou,	25	
Hamburg,	109	18
Iceland,	176	
Kingston, Jam.,	30	
Lagoa,	250	
Landana,	5	
Loango,	8	
Manaco,	17	
Maradi,	10	
Melbourne,	50	
Montreal,	1,393	
Muculla,	5	
Naksoy,	200	
Newcastle,	180	
Newport News,	37	
Noqui,	14	18
Philadelphia,	250	
Pt. Natal,	20	
Quebec,	25	
Quillo,	30	
Rio de Janeiro,	100	11
Rotterdam,	15	
Rouen,	15	
St. John's, N'd.,	10	
San Francisco,	145	
Savannah,	500	
Sinos,	9	18
Sydney,	76	1
Trinidad,	1	15
Valparaiso,	125	
Wyburg,	500	

Salt Cake—

Lisbon,	10 t.	£15
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Saltpetre—

Syra,	2 t. 12 c. 3 q.	£60
Rio de Janeiro,	1	9
Santos,	4	19
Maranham,	11	3
Para,	10	3

Sheep Dip—

Charlotte Town, P.E.I.,	2 cks.	£10
B. Ayres,	1,800 dms.	25 688

Soap—

Accra,	12 bas.	
Addah,	49	
Akassa,	24	
Alexandria,	18 cs.	
Antofagasta,	20	
Axim,	318	
Barbadoes,	1,050	
Bluefields,	150	
Bombay,	81	
Boston,	954	4 cks.
B. Ayres,	6	6 brls.
Calcutta,	10	250 bds.
C. C. Castle,	50	1
Cape Town,	59	50
Constantinople,	400	
Darlan,	330	
E. London,	75	5 100 kgs.
Elmina,	50	79 dms.

Gibraltar,	210	
Gothenburg,	62	250
Gd. Bassam,	62	840
Havre,	18	18
Karachi,	1,870	
Kingston,	684	
Las Palmas,	50	
Lome,	5	
Madras,	760	2
Manaco,	50	
Maranham,	125	26
Montego Bay,	800	
New York,	13	
Old Calabar,	100	
Oporto,	30	53
Para,	70	
Penang,	500	350
Pt. Natal,	83	
Quittah,	1	
Rangoon,	67	
Rotterdam,	100	
St. John's, N.F.,	200	
Thomas,	1	
San Jose,	1	
Santa Cruz,	1	
Sierra Leone,	1	
Singapore,	1	
Teneriffe,	1	
Trinidad,	1	
Valparaiso,	1	

Soda—

Boston,	15 cks.	
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Soda Alkali—

Barcelona,	40 cks. 50 brls.	
Bombay,	8	
Buffalo,	40	
Las Palmas,	13	
Leghorn,	35	
London, Ont.,	50	
Malta,	12	
Montreal,	10	
Odessa,	150	
Panama,	51	
Piraeus,	69	
Salonica,	13	
Shanghai,	34	
Smyrna,	30	50
Sydney,	15 dms.	
Trinidad,	4	

Soda Ash—

Antwerp,	200 bgs.	
Baltimore,	1,365	12 cks. 94 tcs.
Barcelona,	78	
Bombay,	22 brls.	
Boston,	880	162 71
B. Ayres,	900	
Callao,	20	30
Genoa,	100	
Ghent,	100	
Gothenburg,	33	
Hamburg,	25	50 brls.
Kobe,	504	
Leghorn,	10	
Melbourne,	34	
Mitylene,	60	
M. Video,	4	
Montreal,	618	10
New York,	3,046	85 170 tcs.
40 bds.	100	25
Philadelphia,	100	100 brls.
Rio de Janeiro,	10	
St. John's, N.B.,	10	
Seville,	50	
Syria,	40	
Tampico,	15	
Vera Cruz,	16	

Soda Crystals—

Alexandria,	20 brls.	
Arica,	300 kgs.	
Barcelona,	8 cks.	
Boston,	671	
Hamburg,	265	100 bgs.
Lisbon,	2	
Malta,	45	100 40 kgs.
M. Video,	20	
Montreal,	50	
New York,	168	250 50
Penang,	10	
Philadelphia,	446	
Quebec,	60	
St. John's, N'd.,	70	
Sourabaya,	34	
Tunis,	10	

Sodium Bicarbonate—

Antwerp,	51 kgs.	
Baltimore,	150	75 cks.
Beyrout,	200	
Bombay,	260	
Bordeaux,	4	8 brls.
Boston,	200	
Calcutta,	530	
Constantinople,	20	
Dunedin,	42	
Genoa,	70	26
Halifax,	100	
Hamburg,	15	1

Havre,	50	
Karachi,	480	
Kobe,	500	
Marseilles,	70	60 bgs
Melbourne,	200	
Mexico City,	50	
Montreal,	260	10
Naples,	50	
N'wport News,	1050	611
New York,	34	
Odessa,	100	
Rouen,	135	4
S. John's, N'd.,	30	
Samarang,	5	
San Francisco,	54	
Seville,	40	20 20 brls.
Smyrna,	20	
Tampico,	20	
Trinidad,	100	
Valparaiso,	30	
Vera Cruz,	10 bgs.	

Sodium Chlorate—

Antwerp,	25 kgs.	
Hamburg,	5	
St. Petersburg,	25	

Sodium Silicate—

M. Video,	4 brls.	
Montreal,	1 cs.	

Starch—

Maranham,	16 bgs.	
Oporto,	40 sks.	
Patras,	20 cs.	
Valparaiso,	1	

Stearine—

New York,	290 bgs. 42 cks.	
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Strontia—

Hamburg,	50 t. 4 c.	£600
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Sulphur—

Montreal,	195 t. 3 c.	£713
Boston,	300	9 978
Halifax,	5	2 20
Pt. Natal,	9	1 q. 42
Maranham,	6	3

Sulphuric Acid—

Pernambuco,	1 t.	£10
Porto Alegre,	18 c. 1 q.	10

Superphosphate—

Las Palmas,	40 t.	£190
Teneriffe,	5	11

Treacle—

Accra,	4 cs.	
Antwerp,	10 cks.	10 brls.
Rotterdam,	10 hf.-pns.	20
Teneriffe,	50	23

Turpentine—

Manila,	100 dms.	£42
B. Ayres,	18 crts.	53

Varnish—

Demerara,	2 dms. 1 brl.	
Genoa,	2 cs.	
Las Palmas,	1	
Leghorn,	2	3 cks.
Lisbon,	4	
Manila,	3	
Montreal,	10	3
Paris,	3	
Trieste,	2	
Valparaiso,	19	

White Lead—

Pt. Natal,	5 cs. 80 kgs.	
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Whiting—

Callao,	35 brls.	
Iquique,	25	
St. John's, N'd.,	6 t. 11 c.	
Santos,	50	
Shanghai,	10 cks.	
Sydney,	50	
Valparaiso,	300	

Zinc Chloride—

Bombay,	1 t. 4 c.	£21
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MANCHESTER.**Week ending July 24th.****Ammonium Carbonate—**

Antwerp,	10 kgs.	
Rotterdam,	5	

Aniline Oil—

Rouen,	10 dms.	
Antwerp,	1	

Carbolic Acid—

Treport,	222 brls.	
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Caustic Soda—

Barcelona,	7 dms.	
Seville,	20	

China Clay—

Rouen,	20 bgs.	
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Colours—

Rotterdam,	4 brls. 9 cks.	
Hamburg,	1 cs. 4 kgs.	

Creosote—

Rotterdam,	63 cks.	
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Creosote Salts—

Antwerp,	61 cks.	
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Glue—

Bombay,	1 cs.	
Rotterdam,	10 cks.	

Paraffin Wax—

Hamburg,	3 cs.	
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Pitch—

Antwerp,	63½ t.	
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Sodium Bicarbonate

Gibraltar,	40 kgs.	
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Sodium Silicate—

Valencia,	200 cks.	
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Tar Oil—

Treport,	10 dms.	
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Zinc Chloride—

Bombay,	8 cks.	
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HUL**Week ending 7.****Ammonium Sulphat**

Genoa,	485 bgs.	
Marseilles,	672	
New York,	239	
Rouen,	514	

Bleaching Powder—

Bombay,	34 cks.	
Genoa,	55	
Leghorn,	65	
Stettin,	82	

Caustic Soda—

Bombay,	10 dms.	
Wyburg,	10 cks.	

Chemicals (otherwise)

Antwerp,	2 cks.	
Amsterdam,	11	
Bergen,	10	
Copenhagen,	5	
Christiania,	5	
Danzig,	10 kgs.	
Drontheim,	10 kgs.	
Gothenburg,	50 cks.	
Genoa,	1	
Hamburg,	9	1
Harlingen,	62	
Helsingfors,	28	
Konigsberg,	2	
Marseilles,	2	
Naples,	2	
Rotterdam,	2	
St. Petersburg,	2	
Stockholm,	2	
Stettin,	2	

Citric Acid—

St. Petersburg,	20 kgs.	
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Cottonseed Oil—

Antwerp,	102 c.	
Amsterdam,	100	
Bremen,	100	
Copenhagen,	127	
Christiania,	69	
Gothenburg,	53	
Hamburg,	321	
Rotterdam,	1,022	
Stockholm,	200	

Creosote—

Bordeaux,	2,269 brls.	
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Dyestuffs (otherwise)

Christiania,	50 bgs.	
Hamburg,	2 cks.	

tiania,	5	20 dms.
irk,	2	4 pks.
enburg,	17	
t,	16	
burg,	8	
gsberg,	10	
York,	110	20 pkgs.
es,	10	
n,	1	
rdam,	12	
etersburg,	24	
holm,	39	1
n,		
erp,	215 t.	
enburg,	1 cs.	
h—		
ig,	50 cs.	
enburg,	2 cks.	
w—		
rdam,	19 cks.	
erp,	7 cks.	
heim,	5	
ngen,	1	
ngfors,	100	
rdam,	9	
holm,	5	
le—		
go,	20 cks.	
urg,	10	
ah—		
erp,	2 cs.	
ay,	20 dms.	
t,	3	
es,	2	
rdam,	8 cks.	1
in,		
ing—		
ay,	13 cks.	
burg,	10 bgs.	
York,	62	

GLASGOW.

Week ending July 25th.

onia—		
erara,	66 t.	4 1/2 c.
dad,	60	10 1/4
onia (Liquid)—		
ila,	14 1/2 c.	
onium Sulphate—		
more,	127 t.	15 1/2 c.
sica,	5	
ston,	5	
dad,	70	8 1/4
adoes,		
erara,		£488
dad,		1,373
ncia,	255	3 1/4
ston—		£120
erara,		£42
ching Powder—		
ey,		£45
olic Acid—		
erp,		£76
or Oil—		
erara,	18 1/4 c.	
ilic Soda—		
na,	5 t.	
icals (otherwise undescribed)		£40
elona,		
Products—		
nzina		£51
leaux,		
sch		
A.,	qty.	
stiania,		£60
es D'Olonne,	400 t.	
Nazaire,	350	
A.,		308
igsberg,	52 t.	10 c.
ar		
treal,		£84
ang,		97
gon,		73
apore,		£177. 10s.
igsberg,	142 t.	14 c.
ar Oil		
igsberg,	9 t.	
Tar Products (otherwise un-		
described)		
nany,	23 t.	
fectants—		
ay,		£12

Dyestuffs—		
Extracts		
Barcelona,	£67	
Canada,	322	
Fustic Extract		
Barcelona,	£77	
Myrabolan Extract		
Barcelona,	£54	
Sumac Extract		
Barcelona,	£35	
Gelatine—		
Algoa Bay,	£28	
Canada,	73	
U.S.A.,	5,400 lbs.	
Glucose—		
U.S.A.,	1 t.	
Glue—		
Demerara,	4 c.	
Iodine—		
Rotterdam,	£230	
Linseed Oil—		
Antofagasta,	10 c.	
Canada,	4 t.	7
Pt. Elizabeth,	2	1 1/2
Sydney,	1	4
Trinidad,	2	13
Valparaiso,	1	1 1/4
Bombay,	1	5 1/4
Demerara,	17	
M. Video,	1	11 1/4
Litharge—		
Montreal,	£125	
Magnesium Sulphate—		
Canada,	£23	
Manganese—		
Basle,	£100	
Manganese Oxide—		
New York,	£170	
Manure—		
Kingston,	8 t.	
Trinidad,	25	
Paint—		
E. London,	£28	
Havana,	110	
Hioho,	20	
Kingston, Jam.,	74	
Manila,	215	
Saigon,	35	
Singapore,	102	
Valparaiso,	1,136	
Antwerp,	37	
M. Video,	2 t.	18 1/4 c.
Painters' Colours—		
Bombay,	£256	
Demerara,	24	
Georgetown,	6	
Shanghai,	200	
Sydney,	171	
Trinidad,	£5. 12s.	
Barcelona,	£43	
Bahia,	20	
Hioho,	20	
Singapore,	42	
Yokohama,	250	
Paraffin Wax—		
Bombay,	1 t.	5 1/2 c.
Cape Town,	£176	
King William's Town,	20	
Barcelona,	25	
Stockholm,	1 t.	
Genoa,	249	
Leghorn,	215	
Naples,	35	
Konigsberg,	1	1
Potash Salts—		
E. London,	£700	
Potassium Bichromate—		
Antwerp,	£223	
Canada,	6 t.	4 1/2 c.
U.S.A.,	24	4 1/4
Barcelona,		829
Rotterdam,		200
Bombay,		43
Genoa,		746
Ghent,		134
Potassium Prussiate—		
Bombay,	£4. 10s.	
Yokohama,	£43	
Barcelona,	1,042	
Rosin—		
Trinidad,	£1	
Rosin Oil—		
Stockholm,	1 t.	
Salammoniac—		
Bombay,	£2	
Trinidad,	11 t.	16 1/2 c.
Salt—		
Bangkok,	1 t.	1 1/4 c.
Hong Kong,	2	6 1/4
Shanghai,	2	19 1/4

Slag—		
Rotterdam,	255 t.	
Soap—		
Algoa Bay,	3 t.	9 c.
Bombay,	4	14 1/2
Demerara,	4	9 1/2
Grenada,	1	6 1/4
Shanghai,	4	1 1/4
Trinidad,	9	6
Barcelona,		14 1/4
Demerara,		£87
Soda—		
Demerara,	2 t.	11 c.
Sodium Bichromate—		
Antwerp,		£360
Canada,	4 t.	1 c.
U.S.A.,	11	2 1/4
Barcelona,		390
Genoa,		708
Ghent,		60
Leghorn,		56
Rouen,		520
Sodium Phosphate—		
U.S.A.,		£58
Sodium Sulphate—		
Canada,	2 t.	5 c.
Stannous Chloride—		
Demerara,		£70
Stearine—		
U.S.A.,	2 t.	15 1/2 c
Sulphuric Acid—		
Bombay,		£1.450
Rangoon,		303
Tallow—		
Christiania,		12 c.
Tartaric Acid—		
Bombay,		£11
Treacle—		
Antwerp,		£27
Natal,		54
Christiania,	33 t.	16 c.
Stockholm,	23	
Turpentine—		
Trinidad,		1 1/4 c
Valparaiso,		£143
Varnish—		
Sydney,		£24
Tarragona,		12
White Lead—		
Canada,	10 t.	3 c.
E. London,		£50
Montreal,		80
Sydney,		45
Transvaal,		165
Trinidad,		33
Bombay,		29
Zinc Sulphate—		
Bombay,		£1. 14s.

TYNE.

Week ending July 20th.

Alkali—		
Hamburg,	8 t.	1 c.
Nykjobing,	20	
Copenhagen,	2	11
Alumina—		
Antwerp,	5 t.	6 c.
Ammonia—		
Odense,	2 t.	10 c.
Antimony—		
Antwerp,	5 t.	
Rotterdam,	3	
Hamburg,	18	3 c.
Christiania,		6
Arsenic—		
St. Petersburg,	4 t.	12 c.
Barytes—		
St. Petersburg,	25 t.	5 c.
Blanc Fixe—		
Antwerp,	2 t.	2 c.
Bleaching Powder—		
Antwerp,	23 t.	16 c.
Hamburg,	35	3
Harlingen,	25	2
Genoa,	7	2
Copenhagen,	9	17
Rotterdam,	75	5
Oporto,	1	19
Bergen,	4	19
St. Petersburg,	111	19
Carbolic Acid—		
Odense,		12 c.
Caustic Soda—		
Wassa,		18 c.
Alexandria,	3 t.	
Antwerp,	15	5
Hamburg,	4	1
Barcelona,	92	14

Genoa,	31	10
Copenhagen,	8	2
Rotterdam,	24	7
Christiania,	8	2
Reval,	16	2
Lamp Black—		
Rotterdam,		5 c.
Litharge—		
Hamburg,	1 t.	2 c.
Magnesia—		
Hamburg,		11 c.
Barcelona,	3 t.	
Genoa,		14
Oxalic Acid—		
Genoa,		7 c.
Paint—		
Antwerp,		7 c.
Copenhagen,		5
Langore,		5
Pitch—		
St. Petersburg,	20 t.	1 c.
Slag—		
Rotterdam,		1 bx.
Soda—		
Wassa,	1 t.	1 c.
Alexandria,		15
Nykjobing,		11 18
Randers,		10
Genoa,		15 8
Rotterdam,		23 8
Christiania,		20 3
Oporto,		2 1
St. Petersburg,		10 19
Soda Ash—		
Antwerp,		5 t. 3 c.
Hamburg,		5 3
Harlingen,		5 6
Oporto,		1 5
Bergen,		5
Sodium Sulphate—		
St. Petersburg,	10 t.	5 c.
Tallow—		
Genoa,	5 t.	4 c.
Tar—		
Reval,		5 t.
Varnish—		
Copenhagen,		15 tins
White Lead—		
Copenhagen,	4 t.	5 c.
Christiania,		11
Oporto,		10 2

GOOLE.

Week ending July 17th.

Benzol—		
Hamburg,	97 cks.	
Rotterdam,	70	
Chemicals (otherwise undescribed)		
Boulogne,	2 cks.	
Dunkirk,	15	
Coal Products (otherwise undes.)—		
Boulogne,	6 cks.	7 cs.
Ghent,		3
Rotterdam,	50	
Hamburg,	25	
Colours—		
Ghent,		2 tins
Boulogne,		2 cs.
Hamburg,	1	1 2 cks.
Dyestuffs (otherwise undescribed)		
Antwerp,		5 cks.
Hamburg,		140
Manure—		
Boulogne,		46 bgs.
Rotterdam,		267
Rouen,		198
Pitch—		
Antwerp,		360 t.

GRIMSBY.

Week ending July 10th.

Chemicals (otherwise undescribed)		
Dieppe,		2 cks.
Hamburg,	21 cs.	4 btls.
Coal Products (otherwise undes.)—		
Dieppe,		105 cks.
Colours—		
Antwerp,		3 cs.
Dieppe,		10 cks. 1 dm.
Rotterdam,		1
Dyestuffs (otherwise undescribed)		
Dieppe,		2 cks. 1 cs.
Hamburg,		5
Pitch—		
Malmo,		6 cks.

PRICES CURRENT.

WEDNESDAY, JULY 3

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	8 9/3
" Glacial	"		40/-
Arsenic S.G., 2000°	"	0	15 0
Fluoric	per lb.	0	0 3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
" (Cylinder), 30° Tw.	"	0	3 0
Nitric 80° Tw.	per lb.	0	0 1 1/2
Nitrous	"	0	0 1 1/4
Oxalic	nett	0	0 3 1/4
Phosphoric, 1750°	"	0	1 1
Picric	"	0	0 10
Sulphuric (fuming 50 %)	per ton	15	10 0
" (monohydrate)	"	5	10 0
" (Pyrites, 168°)	"	3	0 0
" " 150°	"	1	5 0
" (free from arsenic, 145°)	"	1	6 0
Sulphurous (solution) S.G. 1025	"	3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric	"	0	0 11 1/4
Arsenic, white powdered	per ton	15	5 0
Alum (loose lump)	"	4	12 6
Alumina Sulphate (pure)	"	4	12 6
Aluminoferic	"	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	"	0	1 3
" "880=28° B.	per lb.	0	0 3
" "24° B.	"	0	0 2 1/4
" Carbonate	nett	0	0 3 1/4
" Muriate	per ton	21	10 0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	37/-
" Nitrate	per ton	39	0 0
" Phosphate	per lb.	0	0 7 1/2
" Sulphate (grey) London	per ton	9	10 0
" " (grey) Hull	"	9	8 9
Aniline Oil (pure)	per lb.	0	0 5 1/4
Aniline Salt	"	0	0 4 1/4
Antimony	per ton	32	0 0
" (tartar emetic)	per lb.	0	0 7
" (golden sulphide)	"	0	0 10
Barium Chloride	per ton	6	7 6
" Carbonate (native)	"	3	5 0
" Sulphate (native levigated)	"	42	6 to 65/-
Bleaching Powder, 35 %	nett	7	0 0
" Liquor, 7 %	"	3	10 0
Bisulphide of Carbon	"	13	0 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	"	15/-	to 30/-

Coal Tar Products and Dyes:—

Alizarine (artificial) 20 %	nett	per lb.	0 0 8
Magenta	"	"	0 3 9
Anthracene, 30 % A, f.o.b. London	per unit	per cwt.	0 1 0 1/2
Benzol, 90 % nominal	"	per gallon	0 0 11
" 50/90	"	"	0 0 11
Carbolic Acid (crystallised 40°)	per lb.	0	0 5 1/2
" (crude 60°)	per gallon	0	1 8
Creosote (ordinary)	"	0	0 1 1/2
" (filtered for Lucigen light)	"	0	0 2
Crude Naphtha 30 % @ 120° C.	"	0	0 5 1/4
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	"	1	13 0
Solvent Naphtha, 90 % at 160°	per gallon	0	1 0
Lucigen and "Wells" Oils	"	0	0 2 1/2
Copper	per ton	45	10 0
" Sulphate	"	15	5 0
" Oxide (copper scales)	"	41	10 0
Glycerine (crude)	"	16	10 0
" (distilled S.G. 1250°)	"	42	10 0
Iodine	nett, per oz.	0	0 9
Iron Sulphate (copperas)	per ton	1	5 0
" Sulphide (antimony slag)	"	2	0 0
Lead (sheet) for cash	"	12	5 0
" Litharge Flake (ex ship)	"	13	10 0
" Acetate (white ")	"	22	10 0
" " brown ")	"	14	10 0
" Carbonate (white lead) pure	"	16	0 0
Nitrate	"	18	15 0

Lime, Acetate (brown)	per ton		
" " (grey)	"		
Magnesium (ribbon and wire)	per oz.		
" Chloride (ex ship)	per ton		
" Carbonate	per cwt.		
" Hydrate	per ton		
" Sulphate (Epsom Salts)	per ton		
Manganese, Sulphate	"		
" Borate	per cwt.		
" Ore, 70 %	per ton		
Methylated Spirit, 61° O.P.	per gallon		
Naphtha (Wood), Solvent	"		
" " Miscible, 60° O.P.	"		

Oils:—			
Cotton-seed	per ton		
Linseed	"		
Petroleum, American	per gallon		
Stearine	per ton		
Phosphorus (yellow)	per lb.		
" (red)	"		
Potassium (metal)	per oz.		
" Bichromate	nett	per lb.	
" Carbonate, 90% (ex ship)	per ton		
" Chlorate	per lb.		
" Cyanide, 98%	"		
" Hydrate (Caustic Potash) 80/85 %	per ton		
" " (Caustic Potash) 75/80 %	"		
" " (Caustic Potash) 70/75 %	"		
" Nitrate (refined)	per cwt.		
" Permanganate	per cwt.		
" Prussiate Yellow	per lb.		
" Sulphate, 90 % (ex ship)	per ton		
" Muriate, 80 % (do.)	"		
Silver (metal)	per oz.		
" Nitrate	"		
Sodium (metal)	per lb.		
" Carb. (refined Soda-ash) 48 %	nett	per ton	
" " (Caustic Soda-ash) 48 %	"	"	
" " (Carb. Soda-ash) 48 %	"	"	
" " (Alkali) 58 %	"	"	
" " (Soda Crystals)	"	"	
" Acetate (ex-ship)	"	"	
" Arseniate, 45 %	"	"	
" Chlorate	per lb.		
" Borate (Borax)	net, per ton		
" Bichromate	per lb.		
" Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10 ton lots		
" " (74 % Caustic Soda)	"		
" " (70 % Caustic Soda)	"		
" " (60 % Caustic Soda)	"		
" " (60 % Caustic Soda, cream) (f.o.b.)	"		
" Bicarbonate	"		
" Hyposulphite	"		
" Manganate, 30%	"		
" Nitrate (95 % ex-ship Liverpool)	per cwt.		
" Nitrite, 98 %	per ton		
" Phosphate	"		
" Silicate (glass)	per ton		
" " (liquid, 100° Tw.)	"		
" Stannate, 40 %	per cwt.		
" Sulphate (Salt-cake)	per ton		
" " (Glauber's Salts)	"		
" Sulphide	"		
" Sulphite	"		
Strontium Hydrate, 100%	"		
Sulphocyanide Ammonium, 95 %	per lb.		
" Barium, 95 %	"		
" Potassium	"		
Sulphur (Flowers)	per ton		
" (Roll Brimstone)	"		
" Brimstone: Best Quality	"		
Superphosphate of Lime (26%)	"		
Tallow	"		
Tin Crystals	per lb.		
" English Ingots	per ton		
Zinc (Spelter)	"		
" Chloride (solution, 100° Tw.)	"		

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Communications for the Editor, if intended for insertion in the next issue, should reach the office not later than **Tuesday** of the week.

Reports, and correspondence on all matters of interest to the chemical and allied industries, home and foreign, are solicited. Contributors should condense their matter as much as possible, and use only one side of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be on separate sheets.

Advertisements.

Advertisements of Situations Vacant, Premises on Sale or To be Let, and Wants, and Specific Articles for Sale by Private Contract are accepted in the *Chemical Trade Journal* at the following rates:—

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning at the latest.**

CURRENT TOPICS.

ARE THE FALLS OF FOYERS TO BE UTILIZED?

Aluminium that for so long has been, as it were, the popular pet among metals, appears to stand in danger of losing some of its popularity.

The vast stores of power available in America and on the Continent in the natural waterfalls, has naturally caused those who need cheap power, to turn their attention to the utilization of similar sources at home.

In the generation of electricity water power has proved most opportunely to be highly suitable in almost every way. To it the success of the electrical production of aluminium on the Continent is largely due. It is not surprising, therefore, that the directors of the British Aluminium Company should pitch on the Falls of Foyers as the scene of their future operations.

By so doing, however, they have as a matter of course roused the energies of the anti-utilitarianists, who are just now doing their best to prevent the Company carrying their project to a successful issue.

As might be expected, we are informed upon the authority of these gentlemen of all sorts of terrible things that will happen if the Company is allowed to proceed. Such dreadful things as hydrofluoric-acid gas are mysteriously talked about, and gigantic waste tips hinted at, the company being under no obligation to remove the latter if their undertaking does not flourish. We would venture to suggest that a comparatively short period will enable the future of the company to be determined, so that if things turn out adversely these spoil banks will not have had time to assume very elephantine proportions. If, however, matters go well, and it is found that the industry has come to stay, we have no fear that these banks will lack champions to defend their existence.

The Scotch, as a people, are long-headed, and generally more amenable to the influence of the bawbee than sentiment. Efforts have been made to show that the Highlander's pocket will be touched, on the ground that tourists will not be so numerous. But the Scotty appears to have counted the cost. Tourists come and go, industries bring grist to the mill every day in the week. At all events, if the Roads' Board did not weigh well the advantages and disadvantages before giving their decision in favour of the alterations the company desire to make, they certainly sadly belied the national character.

There is undoubtedly a precedent in favour of the power at Foyers being turned to account. Niagara has been utilized, and these falls possessed a world-wide reputation for natural beauty, as well as being of historic interest, compared with which the falls of Foyers are as nothing. It will, therefore, be very instructive and interesting to see how the County Council of Inverness-shire will act when dealing with the matter at their October meeting.

MANUFACTURERS AND RIVER POLLUTION.

Once again manufacturers are beginning to kick against compulsory river purification. The arguments brought up have not been any too new, but one or two of the points may justly claim attention.

The plaint that Lancashire industries are unduly hampered because in Scotland and other countries such stringent regulations for the prevention of pollution are not enforced is tenable, and at the same time untenable, for the start must be made somewhere, and the reformation cannot be done all at once, and simultaneously everywhere. Consequently it is only natural that the districts in which pollution is worst should be the first on which legislation is brought to bear. When there are evidences of an improvement, then Lancashire polluters will enjoy a respite during which they will be able to smile at the throes of their erstwhile tormentors.

The great point that manufacturers appear to overlook, while accepting the inevitable, is the unsatisfactoriness of the Joint Committee's ideas as to what constitutes a reasonable purification.

Under the cover of "the best practicable means" clause, they appear to constantly seek shelter lest they should find a manufacturer doing too little, rather than duly exercising the rights given them under the clause to ensure ample treatment where such is feasible, and to make just allowances where circumstances present genuine difficulties. So long as the Committee administer the Act on their present lines, they ought to state a standard which shall be practically feasible for all general purposes, to do which is by no means an impossibility. On this point manufacturers should be firm, and they would much simplify matters for themselves. When the Joint Committee's Act is enforced on the same lines and by the same class of inspection as the Alkali Works etc., Act, then the "best practicable means" method of application can be successfully employed, but until a similar system of inspection is adopted a definite standard is necessary. The latter appears to be considered an insuperable difficulty, however. If so, why should not the system that has given such excellent results in regard to air pollution answer equally well for river pollution?

EXPORTS OF PETROLEUM FROM U.S.A.

THE Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for June. The total shipments were 68,872,157 gallons compared with 79,266,974 gallons in June, 1894. The total for the twelve months ending June, 1895, was 875,656,144 gallons against 898,763,153 gallons during the same period in 1894. The details of the shipments are as follow:—

CRUDE PETROLEUM.		Gallons.
Total, June, 1895	11,972,590	
" " 1894	12,252,102	
NAPHTHAS.		
Total, June, 1895	1,057,951	
" " 1894	369,889	
ILLUMINATING.		
Total, June, 1895	52,385,379	
" " 1894	63,439,051	
LUBRICATING AND PARAFFIN.		
Total, June, 1895	3,498,087	
" " 1894	3,176,948	
RESIDUUM.		
Total, June, 1895	3,150	
" " 1894	2,184	

THE FIRST DISCOVERY OF CRUD CALIFORNIAN BORAX.

IN a recent letter to a contemporary, Mr. A. Robottom, in exception to certain statements made in an article on the Californian borax fields, which appeared a short while back in *Graphic*.

In offering the correct information he states:—The first deposits in Southern California were made in San Francisco by John and Dennis Searles, bear hunters, who were prospecting Panimint. Being in San Francisco about this time, I was asked by a gentleman in the Bank if I would venture down and report on the lands; another gentleman who had some interest in the matter offered to present me with 640 acres of borax land if I would see his other parts of the land and report to him on it. Before then I had been over many of the Nevada deposits, and the accounts of them had appeared in the *San Francisco*. I agreed to go down—I went by way to Los Angeles—and stopped at the Miner's Hotel. At Los Angeles was but a little known place, and asking the land agent the best way I could get to the deposits, he assured me the only way I could do would be to travel by mule team that left this city every 20 days for the mines that were being opened in Nevada. I had to travel over what was infested at that time by the lowest rif-raff of California and Nevada.

I left in due course and had to cross the Mohave desert, a that time known only to a wild set of Indians, and there were about 15 miles apart where supplies of water and lodgings could be obtained. The distance being about 240 miles from Los Angeles to Joe's Pass, near Jem Bridger's shanty, and this was the place I decided to stop at to get information. I eventually found that I should walk to the first deposit which was about 42 miles, without a house or sign of life of any kind. After a fearful journey, I eventually met the Searles, in a valley completely surrounded by mountains. They had two horses and a small waggon, and at first I had to go 17 miles for water, and the nearest place to post a letter was Bridger's, 42 miles! On this dry bed of lake was a ridge of salt, about five miles long, two miles across; on the western end of the ridge was a deposit of pure borax crystals. This was the first specimen of pure borax yet discovered in the world. I had a lot of this borax and sent it to San Francisco, thence to Panama, and the West Indies, whence it was forwarded to England. In England I returned to England, and then made up my mind to go a second time to California, as the trade in borax was then opening out on a large scale. I had, however, more borax than I could find a market for, and I had some of it packed in penny packets, took a stand at the Agricultural Hall on the first opening of the Dairy Show, and so a quantity that the success was wonderful. At this period borax was very little known to the public, and the medical profession and retail chemists knew nothing about it, and none of them knew where to get it. Therefore I took a store for a short time in Leadenhall-street, and these products retail to get them known, but I found the difficulty great that I was obliged to sell the whole of this packing business to the Patent Borax Co., at Birmingham, and I must have been the means of distributing borax throughout the world than any other firm.

Referring to the country round this dry bed of a lake there are deposits of borate of lime and other salts. Hell's Half Acre, and Owens Lake, Furniss Creek and Amargosa are full of such chemical deposits; the latter districts are near to Death Valley. The country round has but very few white people, but I was fortunate to meet with one of the men that had been saved out of 66 pioneers that were sent from Salt Lake City to find a new route to the Pacific Coast. There were then no railroads in that part of America, and the Mormons, wishing to get to the coast, led an expedition, and they got into Death Valley, and were all lost but O'Brien and Mr. Townsend. I got much information from one party, but he was unable to inform me whether the dead horse was sat upon in one of the valleys belonged to the expedition, and here say that my being on this horse gave me the first idea of the septic properties of Borax. I had gone into the valley with a party to look at a deposit, and in the middle of the day I found myself dried up with the great heat, and I told my companion that unless I could procure me some water I should soon be dead; he left the hut, and I saw a brown substance on the white borax, and went and found it to be a dead horse, which I sat upon, and began to comb the hair, and found it firm in the skin; with my knife I cut the skin of the dead animal, and found it quite sweet; this was reported in the *San Francisco* papers, and was repeated in the *Eastern* papers, and some of the papers in Europe, and from that date borax and its acid became recognised by the medical profession as an antiseptic.

Legal Intelligence.

HIGH COURT OF JUSTICE.

QUEEN'S BENCH DIVISION.

Before the Lord Chief Justice, sitting without a jury to try Commercial Causes.

WHITE PULP COMPANY, LIMITED, AND OTHERS v. FABER AND ANOTHER.

As an action brought against underwriters to recover their loss of a fire policy of £500. effected on buildings and at Hjerpen, in Sweden. The policy was dated September 3, and was to run from September 24th, 1893, to September 24. The policy contained the following conditions:—(1) "Insurances on the same interest allowed without notice until" and (2) "It is mutually agreed that this policy is subject to the terms and conditions as a policy or policies of the North British Mercantile Company for £1,500. on identical interest, and loss it is agreed to settle hereon according to the adjustment by the said company or companies." Before the policy in question was effected the same premises had been insured in various fire insurance companies, including the North British and the Mercantile Company, all of which policies expired before July, 1894. The plaintiff company's premises were destroyed by fire. The North British Mercantile Company's policy contained the following conditions:—(4) "When taking out an insurance the insured shall, and have specified in the policy, if the insured property is covered by insurance;" (5) "So long as the insurance remains in force the insured shall notify to the company, and have specified in the policy, if some other insurance is taken out, or any insurance effected ceases;" (6) "Should the insured neglect to comply with the stipulations of Articles 4 and 5, the insurance shall be void and remain void until the stipulations shall have been complied with, and it shall be optional for the company, whenever such option be made, however, to receive the rateable proportion of the premium for the unexpired terms of the policy." No notification was given to the defendants that any of the insurances had ceased. The North British Mercantile Company's policy expired on February 4, and there had been no adjustment adopted by the North British Mercantile Company. The question was whether, under the circumstances, the risk covered by the policy of September 29th, 1893, was still in force at the time of the fire.

The Lord Chief Justice, in delivering a considered judgment, said that the question turned upon the two clauses in the policy sued upon, the first of which made the policy subject to the terms and conditions of the North British Mercantile Company's policy. The object of the policy was to incorporate the terms of the North British policy in the policy sued upon subject to this—that if there was anything in the policy sued upon inconsistent with the terms of the North British policy, the policy sued upon would control them. The probability was that the underwriters, whose business was not mainly fire, desired for protection to make their contract subject to the terms and conditions of a fire insurance company's policy. The North British policy was effected in February, 1892, for a year. It contained a stipulation that the insured were to be covered so long as they should continue to pay premiums, and so long as the directors should accept the terms of the policy. The North British Company were on the risk of the policy until February 4, 1894. In February, 1894, the North British Company were unwilling to renew. It appeared from the evidence that there had been a series of fires involving considerable loss, and offices looked askance at this class of risk, so that not only the North British but others also refused to renew contracts which had been underwritten with the plaintiffs. The admissions showed that the risks previously undertaken which had ceased to exist before the policy in question. The conditions of the North British policy were not complied with. His Lordship read clause 4 (*supra*), and said that it did state that other insurances were allowed. As to clause 5, in the conditions, even if not complied with it was not compliance of which defendants could take advantage. Next, clause 6 of the North British policy. The essential part was that the insured were to have notice if any insurance previously effected ceased. He took that to be any risk effected before the policy in question. It was quite clear that that part of the clause had not been complied with. Not only the North British risk but further risks were not notified to the defendants. For what followed from that it was to look to clause 6 in the North British Company's policy. If the insured had been given the insurer had the option to cancel the policy in which case the insured would get back the unearned proportion of the premium. In his judgment it was a clear condition on which the insured were to comply with which liability ceased, and the policy came to an end. He was said that that was an unreasonable interpretation of the clause. He had only to say that he was the least hopeful judge for any

one to come before to ask to spell out a contract which people had not made. If the parties had unreasonably made the contract, by the contract they must abide. It was said that clauses 4 and 5 had to be read together. In the first place, they were addressed to different subject-matters. Clause 4 related to existing policies. Clause 5 related not merely to existing ones but to those to be further taken out. An underwriter might well dispense with the notification of previous policies, but might he not reasonably desire to know whether or not any previous insurer had gone off the risk? In such a case clause 5 gave him the opportunity of considering whether he would continue on the risk. He came to the conclusion that a failure to notify the cessation of an existing policy caused a cesser of liability of the underwriter. It was a condition which went to the root and substance of the contract, which had been broken; and the plaintiffs could not recover. It was not necessary for him to give judgment upon the point of the warranty of continuance of the North British policy. Upon the whole, he came to the conclusion the plaintiffs had failed, and there must be judgment for the defendants.

(Before Mr. Justice Grantham and Mr. Justice Lawrence.)

COLLETT v. WALKER.

This was a case stated by the stipendiary police magistrate for Leeds. An information was preferred by W. B. Walker, an inspector under the Sale of Food and Drugs Act, 1875, against a provision dealer named Collett, under Section 6 of the Act, charging him that he did unlawfully sell to the prejudice of the respondent (the purchaser) some cheese which was not of the nature, substance, and quality demanded. The magistrate convicted and inflicted a fine of 20s., but stated the case for the opinion of the Court.

On February 2nd, one Gill, at the instance of the respondent, entered the appellant's shop for the purpose of purchasing cheese, and, pointing to a substance in the form of an ordinary cheese lying on the counter, asked for about 2lb. of cheese. The appellant's shopman thereupon cut off a piece weighing three pounds and handed it to Gill, who took possession of it and paid for it, the price being at the rate of 6d. a pound. The respondent then entered the shop and notified that he was the purchaser and intended to have it analysed. The purchaser was not supplied with any notice by a label "written or printed on or with the article" to the effect that the same was mixed as required by Section 8, but when Gill came in there was attached to the substance a label containing the words "Valleyfield finest Oleine Cheese." The label was distinctly printed. The words "Valleyfield" and "Cheese" were in larger type than the words "finest Oleine." Gill saw the word "finest" on the label, but did not notice the word "Oleine." The inspector admitted that the word "Oleine" suggested to his mind the idea of some foreign fat. The analysis of the substance showed that the fat of the cheese contained 70 per cent. of fat other than milk. Ordinary cheese contains 25 to 30 per cent. of butter fat, but no other fat. The substance sold contained 24 per cent. of fat, of which rather less than three-fourths was other than butter fat. The mode of manufacture is as follows:—The "butter fat" contained in the milk is extracted for the purpose of making butter. The skimmed milk is then made into a cheese. To this cheese beef fat to the extent of 17 per cent. is added. The preparation is wholesome. It was in evidence that if a customer asked for "cheese" this substance would not ordinarily be served to him. The appellant contended that the substance was "cheese," and at any rate he was protected by the label. The magistrate held as a fact that the substance was not "cheese," and that the label did not convey to Gill, and would not convey to the mind of an ordinary person, even if he read the whole of it, that such substance contained any ingredient which was not contained in ordinary "cheese." He held there was no sufficient indication of the admixture of the foreign ingredient.

Mr. Bigham urged that the sale was not to the prejudice of the purchaser Walker. He cited "Sandys v. Small" as an authority to show that if the purchaser knew that what he was getting was of mixed materials the seller could not be convicted.

Mr. Cyril Dodd referred to the Sale of Food and Drugs Act Amendment Act, 1879, section 2, which provided that it should be no defence to allege that the purchaser who was buying for analysis knew what he was buying.

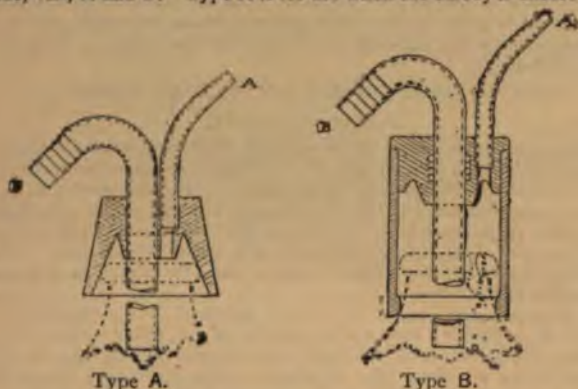
Mr. Justice Grantham said Gill went in as agent to Walker, but it was Gill who actually made the purchase and received the article. Notice was not given to him that the cheese was mixed. It was true there was a label in the bulk of the cheese, but how should he know what "Oleine" meant? The ordinary person who purchased in these shops certainly would not. The name "Valleyfield Cheese" was a taking name. The conviction must be affirmed.

ASBESTOS CONTRACT.—The United Asbestos Company, Limited, of Dock House, Billiter-street, London, E.C., have been awarded the contract for the supply to the Admiralty of asbestos packing and other goods for the ensuing year, 1895-6.

CHERRY'S GEYSER SYPHONS.

THESE siphons are a new idea, and have been designed to fill a long-felt want among all those dealing with acids. They are expressly for carboys, and will fit any shape. The bung or sheath gripping the neck of the carboy being made in the best rubber procurable, it readily adapts itself to any irregularity, always ensuring a perfectly air-tight joint. They are of especial value to chemists, druggists, and others who require to draw off quantities of acids without following the somewhat dangerous practice of tipping or lifting the carboy, attended as it usually is by splashing, not to mention the dirt and dust from the top of the hamper falling into the liquor during the operation.

As will be seen by the accompanying illustrations, two types are made, viz., A and B. Type A is for use when the carboy is encased in

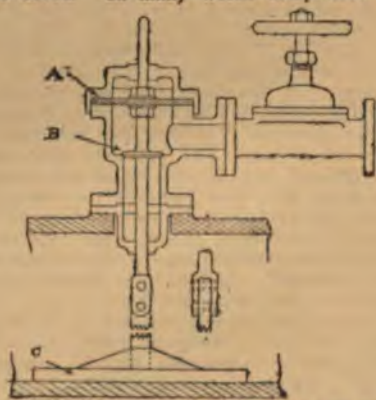


a wooden hamper, which allows but an inch or two of neck to appear. Type B is for use on carboys which are in iron or wicker hampers, and can be readily used when the glass neck is chipped or broken, as shown in the cut. The siphons are made of ebonite, fitted, as described above, with an indiarubber sheath. A rubber tube is attached to the delivery pipe B, by which the flow can easily be regulated. The inventor of this speciality is Mr. Thomas Cherry, a member of the firm of Chas. H. C. Rudd and Partners, chemical plant manufacturers, Newcastle-upon-Tyne.

Another speciality now being made by this same firm is an

AUTOMATIC ACID EGG AIR-VALVE.

This class of valve is invaluable for large chemical works where several eggs are in operation. By its adoption, large volumes of compressed air are saved. In many works compressed air is a very



valuable quantity, considering the power required to produce it. By the use of this valve the air is instantly and automatically shut off, thus preventing large quantities blowing through. The acid entering the egg tends to lift the wooden float C (which barely touches the bottom when the egg is empty), and this lifts valve B. When the egg is full, and the necessary connections opened to direct the liquid where required, the air tap attached to the automatic valve is opened, the compressed air rushes in, acting both on rubber diaphragm A and valve B, which, being open, allows the air to pass down and force the acid out of the egg. As the last few inches of liquor descend, the float does the same, and the valve B, being in perfect equilibrium, is shut, cutting off the air supply. The air tap must, of course, be shut by the attendant before refilling. By lifting or depressing the projecting spindle end, it will be ascertained at once if the valve is working rightly. Inquiries for these valves should be accompanied with full particulars as to size, air pressure, and a sketch (if possible) of acid egg.

AN ELECTRIC BLOW PIPE.

By H. N. WARREN.

THE difficulty of manipulating with hydrogen-gas in conjunction with oxygen when high temperatures are desired has, for a time past, induced experimenters to substitute for the former coal. This agent, although suitable for lime-light illumination, is far inferior as regards temperature to the use of pure hydrogen. During the season the author has had occasion in several instances to test the efficiency of the two mixtures. Several refractory substances, melted readily by the aid of the pure oxy-hydrogen, were observed to obtain refuse liquefaction at all when subjected to the influence of the gas mixture. A blow pipe thus fed by a mixture of coal-gas and oxygen even when both at the same pressure, is very weak as regards action, the most serious drawback being the difficulty of obtaining uniform flame; first the outer part of the flame being hottest, then innermost. The difficulties will be found altogether obviated by the electro-oxy-hydrogen blow pipe, which consists, in one of its simplest forms, of a glass U tube of suitable dimensions mounted on a stand, and furnished with interior platinum plates, in contact with acidulated water, which is introduced into the apparatus before use. The same, the blow pipe in connection with the upper part allowing gases to mix in the ordinary way. Thus is constructed the most effective blow pipe, automatic, of almost indefinite duration, and requiring taps as regulators, the gases being evolved in exact proportion to reform water, whilst the flame is regulated at will by means of electric current. By similar construction upon a larger scale an automatic furnace may be arranged.

EXPORTS OF ALKALI AND BLEACH.

THE following figures, which are taken from the official foreign colonial statistics of the United Kingdom, give the amount value of alkali and bleaching materials shipped to the undermentioned countries during the month of June, 1895, as compared with same month in 1894:—

ALKALI.

Port.	1894.	1895.	1894.	1895.
	Cwts.	Cwts.	£	£
Russia	17,787	23,391	6,365	7,400
Sweden and Norway	10,268	14,949	1,957	3,400
Germany	13,769	13,316	4,221	4,000
Holland	11,965	11,413	2,738	2,600
France	3,485	2,908	1,522	1,300
Spain and Canaries	24,005	22,219	9,652	7,000
Italy	15,143	22,209	5,783	7,000
United States	188,797	188,977	45,965	42,000
Australasia	23,597	16,052	8,688	4,000
British North America ..	16,535	19,540	4,056	4,000
Other countries	84,352	95,181	28,296	28,000
Total	409,703	430,155	119,243	114,000

BLEACHING POWDER, ETC.

Port.	1894.	1895.	1894.	1895.
	Cwts.	Cwts.	£	£
United States	55,998	72,209	22,848	25,000
Other countries	40,616	39,768	16,021	13,000
Total	96,614	111,977	38,869	38,000

SOUTH AFRICAN PETROLEUM.—Petroleum is considered to have been discovered in the Ceres district of South Africa. A bituminous substance submitted for analysis resembled a thick dark-coloured oil and had a mouldy odour, not like that of paraffin. It was evaporated to dryness, and while the evaporation was going on no smell of hydro-carbons was perceptible. The escaping steam had a faint paraffin odour. The residue, which was dark-coloured, gave off paraffin fumes when strongly heated. Crude oil is stated to have been obtained with as sinking has proceeded.

THE LIABILITIES OF A CHEMICAL WORKS.—A farmer, Jarrold, brought an action, at the last Durham Assizes, against the United Alkali Company and other chemical manufacturers, to recover damages for injury to his crops, which, he alleged, had been caused by sulphur fumes from their works. The jury found in the plaintiff's favour for £200., and distributed the liability as follows:—United Alkali Company, £70.; Tharsis Sulphur and Copper Company, £40.; Rio Tinto Company, £40.; Mason and Barry, £15.; and the Jarrold Company, £25. His Lordship entered judgment accordingly.

The Patent List.

It is compiled from Official sources in the Manchester Laboratory, under the immediate supervision of Davis and Alfred R. Davis, who report professionally value of Chemical Patents.

NOTIFICATIONS FOR ENGLISH LETTERS PATENT.

Water Proof Paints. R. Stone. 13,924. July 22.
 Agents in Deodorising and Disinfecting, etc. Wm. Chattaway. July 22.
 Agents in Manufacture of Oxygen. H. L. A. Lapointe. 13,959.
 Agents of Paints and Pigments. S. B. Schryver. 13,973. July 23.
 Gas-consuming Furnaces. W. R. Sage. 13,974. July 23.
 Starch. F. Harrop. 13,977. July 23.
 Kaolin and other Earths. O. Imray. 14,050. July 23.
 Tinting Apparatus. J. U. Askham. 14,060. July 23.
 Agents of Alkaline Chlorides. A. R. Davis. 14,113. July 24.
 Sodium Chloride to Produce Bleach and other Products. Kewell. 14,122. July 24.
 Gas-consuming Appliance. H. Midgley and T. Smith. 14,130. July 24.
 Liquid Manure. G. A. Macintire. 14,143. July 25.
 Press by the Cyanide Process. E. G. Appleby. 14,162. July 25.
 Agents of Galena into White Compounds of Lead and Zinc Ores into Zinc Compounds. A. C. J. Chaslier. 14,166. July 25.
 Artificial Stone. A. Hirsch. 14,187. July 25.
 Inexplosive Acetylene Gas. C. E. Birchel and E. Schultze. July 25.
 Agents for Concentrating Sulphuric and other Acids. R. Wilson. July 26.
 Agents of Vessels and Electric Insulators. E. Whitworth and B. Doyle. July 26.
 Agents of Crystallisation and Desulphurisation of Iron, etc. J. B. Torres. July 26.
 Agents in Continuous Treatment of Ores for the Extraction of C. W. and W. Kitto. 14,286. July 26.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

Abstracts are specially prepared for the Chemical Trade Journal. RIGHTS of publication are RESERVED. This is the earliest abstracts of Chemical and allied patents accessible to the

Agents in Apparatus for Electrolysing Chloride Solutions. E. J. Paterson, and C. F. Cooper, Pownall-road, Darlington, London. at. 10,930. June 1, 1895.

Electric and automatic regulating appliance for converting sea-water saline chloride solutions into disinfectants are described. The appliance consists of a series of glass or other suitable tubes connected in series. Within each tube is a cylinder of zinc and a copper wire, which are connected alternately. The tubes with stoppers, through which narrower tubes pass conveying water, to be electrolysed alternately from the bottom to the top of the electrolysing tubes. The solution finally runs into a reservoir, in which, attached to a rod travelling in guides, actuates a simple lever, which in turn automatically regulate the electric current and the supply of saline solution. Two figures show the battery and the regulator respectively.

Agents in the Manufacture of Soda Crystals or Washing Soda. E. J. Peak, J. Peak, and H. Peak Bridgewater Chemical Works, Pemberton, Wigan, and A. G. Haddock, Beech Hill, Wigan. Eng. Pat. 14,894. at. 3, 1894.

Process is to prepare washing soda specially suited for laundry purposes by making the crystals blue or any other suitable color as to counteract the yellow tint that fabrics acquire. The color is attained by adding to the liquors just before they begin to crystallize, about one part of methylene blue B to every 4,000 parts of liquor. The crystallization is then proceeded with in the usual manner. The suitable aniline or soluble blues can be employed in any proportions, if desirable.

Process for the Recovery of Gold and Silver from Solutions. Kendal, Seawaren, Middlesex, and the State of New Jersey, U.S.A. Pat. 5,536. April 30, 1895.

The process is not confined to any one solvent, but the simplicity of the description is restricted to the cyanide solution.

The principle involved is the extraction of the precious metals from an amalgam of zinc and mercury, removing the excess of mercury electrolytically, and finally the mercury by distillation, leaving the metals. To ensure the amalgam being granular it is prepared by the powdered zinc in a solution of a salt of mercury. The process does not confine himself to any particular mode of preparation, but an alternative method is detailed. Briefly, the actual process consists in the cyanide solution in a rubber vessel, so that the amalgam

can be broken up by external pressure when necessary. The action of the amalgam is somewhat accelerated by heating. The resulting precipitate of the precious metals and excess of amalgam is then placed in another vessel, covered with a layer of powdered battery carbon, and a solution of sulphuric acid in the proportion of one to ten or twelve of water added. This combination constitutes the elements of an electrical voltaic pair, the carbon being chemically inactive, but not so electrically. In this way the zinc is rapidly oxidised and dissolved by the acid. The remaining amalgam is distilled or otherwise suitably treated so as to remove the mercury and leave the silver and gold.

Method of Producing Solid Persulphate of Sodium. R. Loewenherz, Roeterstraat, Amsterdam, at the University Laboratory. Eng. Pat. 16,014. August 29, 1894.

Two methods are described for preparing the persulphate. The first consists in adding solid persulphate of ammonium to a highly concentrated caustic soda lye. Solution takes place with the evolution of ammonia gas, in spite of the concentration of the lye and the absence of excess of water. The salt may be crystallized by heating in vacuum, partially evaporating the water formed during the reaction at a low temperature, or adding alcohol to the solution. In the second method a solution of sulphate of sodium is placed in a porous cell and surrounded with sulphuric acid contained in an outer non-porous vessel. The negative and positive poles of a source of electricity are connected respectively with the acid and the sulphate. The sulphuric acid that passes through the wall of the porous cell has to be neutralised from time to time by the addition of sodium carbonate, or other suitable salts with acids weaker than sulphuric acid. Caustic lye is not admissible, as heat would be generated, thus destroying the persulphate of sodium.

Process and Apparatus for Producing Magnesium Manganite and Hydrochloric Acid from the Double Chloride of Manganese and Magnesium, or for Utilising certain Residual Liquors Produced in the Manufacture of Chlorine. E. Bückse, 18, Wadens Kaia, St. Petersburg. Eng. Pat. 16,300. August 27, 1894.

Weldon's modification of his own process, based on the fact that the double chloride $MnCl_2 \cdot MgCl_2$ on roasting in open air gives off chlorine, forming $MnO_2 \cdot MgO$, which in turn gives chlorine with HCl and reforms the double chloride, has been attended with the drawback that the chlorine from the roasted double chloride is very much diluted with air. This patent claims to obtain the chlorine in a more concentrated form.

The acid manganese liquors from the ordinary process are neutralised with magnesia, concentrated in suitable pans till HCl begins to come off at 150° to $160^\circ C$. Further dehydration is effected in muffles or reverberatory furnaces. The dried mass still contains 25 to 30 % of water. Its ultimate decomposition is effected in a special furnace, details of which are shown in three drawings. Essentially, the furnace consists of vertical fire brick shafts, heated externally to a red heat. The HCl given off is exhausted from the bottom through ordinary condensing plant, the air and heat necessary for the decomposition entering at the top of the shaft. The HCl can be obtained of an average strength of $28^\circ Tw$. The resulting $MnO_2 \cdot MgO$ is easily soluble in HCl. If the acid is added to the dry mass sufficient heat is evolved to obviate the necessity of heating with steam coils. If previously made into a mud and run into the acid, ordinary generators must be employed. The process is continuous, the double chloride being regenerated.

CARBONATED ALKALINE EARTHS AS ELECTROLYTIC DIAPHRAGMS.—A German Patent (82,352) has been taken out for the use of diaphragms constructed of alkaline earthy carbonates, plates of limestone being particularly instanced. Successful attempts have also been made to form diaphragms from moistened limestone dust, and calcined magnesia under pressure. It is claimed that these diaphragms are particularly suitable for use in the electrolysis of alkaline chlorides, as they are practically permanent in the presence of the products of decomposition, and effect a satisfactory separation of such products without introducing an undue resistance.

THE PATENT EXPLOSIVES CASE.—In the Appeal Court, on Wednesday, before Lords Justices Lindley, Lopes, and Riggby, an application was made in the case of the Lancashire Explosives Company and the Roborite Explosive Company, which was an action upon a patent. The plaintiffs had brought an action against the defendants before Mr. Justice Kekewich, who had found in favour of the defendants, and the plaintiffs intended to appeal. Defendants now applied for £200 being paid into court as security for the costs of the plaintiffs' appeal, but their Lordships dismissed the application with costs. Counsel for plaintiffs asked that the hearing of the appeal might be expedited, as their business was being ruined by being deprived of the exclusiveness of their immensely valuable patent. Their Lordships declined to interfere with the hearing of the case, which will therefore come on in its ordinary turn.

FUELS AND FURNACES.

UNDER the above title, a paper on these subjects has been read before the People's Palace Chemical Society. The paper was in parts too theoretical to be of particular interest to our readers, and in consequence the following special abstract is presented. The author (Mr. R. Tervet, jun.) said: In choosing fuels and furnaces as the subject of my paper, I wish to say, at the outset, that it is not because the subject is little understood, or that I have anything new to add to the theory and practice of furnace management, but rather with the hope that the subject may be of present interest to the society in general, and, if possible, useful to some members who are, or may in the future be, called upon to give practical attention to chemical operations, the success of which may depend on correct furnace economy.

In dealing with the subject, I shall dwell more especially on those points which are in accord with modern practice, and which illustrate the general principles of furnace structure and management. I shall also confine myself to those facts which are part of the stock of our knowledge of thermal phenomena, but think it unnecessary to cite a long array of experimenters who have contributed to the fundamental truths. After detailing the method by which the mechanical equivalent of heat is determined, the author gives the following example of ascertaining the efficiency of an evaporating pan:—

Suppose we require to evaporate 1,000 gallons of water from an initial temperature of 20°C.

1,000 gallons of water = 10,000 lbs.

Heat necessary to raise 1 lb. of water at 20° into steam at 100° is:

Water at 20° to water at 100° $(100-20) \times 1 = 80$

Water at 100 to steam at 100° 536.5 = 536.5

616.5 Cent. heat units.

Therefore to evaporate 10,000 lbs. we require:

Cent. heat units.

$616.5 \times 10,000 = 6,165,000$

If the fuel used has a calorific power of 5,550, and to evaporate 1,000 gallons of water 2,095 lbs. of fuel are required,

Then total heat given out by coal is

$2,095 \times 5,550 = 11,627,250$ heat units.

Therefore the efficiency of the plant is

$\frac{\text{Heat used}}{\text{Total heat in fuel}} = \frac{6,165,000}{11,627,250} = 53$

In order to estimate the weight or volume of air required for the complete combustion of 100 lbs. of fuel we have only to multiply the % of each constituent by the foregoing factors:—

Analysis of fuel.	Constituents.	Percentage.	Air required for combustion of 100 lbs. Fuel.		Weight of furnace gases, lbs.
			lbs.	c. ft.	
Carbon	79.50	921.4	11421.1	1000.9	
Hydrogen	4.85	168.6	2090.2	173.45	
Oxygen	5.10			5.19	
Nitrogen	1.59			1.59	
Water	2.50			2.50	
Sulphur	1.08	4.6	58.2	5.68	
Ash	5.37				
Less air=	5.1 lbs. oxygen.	1094.6	13569.5	1189.22	
		22.17	274.75	22.17	
		1072.43	13294.75	1167.05	

The following table A shows how the efficiency of a furnace is impaired as the proportion of air increases. The first column shows what the conditions would be were the net proportion of air necessary for combustion used, the second gives 100%, the third 130%, and fourth 175% extra air.

175% of air in excess of that required for complete combustion is not an exceptional proportion. The proportion of air passing through the furnace can at any time be ascertained by an estimation of the carbon dioxide in the flue gases, by the aid of Hempel's or other well-known apparatus. The result of the determination of the carbon dioxide in the gases will be expressed as volume. In order to find the corresponding weight we need only multiply the percentage volume by 1.479, which will give the percentage of carbon dioxide by weight.

A description is then given of various calorimeters and the methods of using the same, in conjunction with Meyer's law for estimating the heating power of coal. The following table, however, is of interest as it contains the results of two carefully-conducted experiments made on two Lancashire steam boilers, with a view to tracing the distribution of the heat:—

Distribution of Heat in Lancashire Boiler.

Pounds of wet coal thrown on grate..	16388.5	13171.5
Pounds of surface water	1207.8	378
Pounds of dry coal.....	15180.7	12793.8
Pounds of wood, etc.....	534.5	353.5
Pounds of ashes.....	330.5	269.7
Pounds of combustibles.....	12114.5	10246

TABLE A.

	AIR.			
	Net.	100% extra.	130% extra.	175% extra.
Percentage of CO ₂ in flue gases..	24.97	13.01	11.38	9.58
Flue gases per lb. of combustible.	$\frac{79.5}{24.97 \times 3/11} = 11.67$	$\frac{79.5}{13.01 \times 3/11} = 22.39$	$\frac{79.5}{11.38 \times 3/11} = 25.6$	$\frac{79.5}{9.58 \times 3/11} = 30.43$
Initial temperature	15.5	15.5	15.5	15.5
Mean temp. at chimney base....	315	315	315	315
Heat units in flue gases per lb. of combustible.	$11.67 \times 238 \times 299.5 = 831.9$	$22.39 \times 238 \times 299.5 = 1,596.0$	$25.6 \times 238 \times 299.6 = 1,824.79$	$30.43 \times 238 \times 299.5 = 2,169$
Loss.....	$\frac{831.9}{7777} = 10.7\%$	$\frac{1,596.0}{7777} = 20.52\%$	$\frac{1,824.79}{7777} = 23.46\%$	$\frac{2,169}{7777} = 27.8\%$
Temperature of furnace.....	$\frac{7777}{238 \times 11.67} + 15.5 = 2820.5^\circ\text{C}$	$\frac{7777}{238 \times 22.39} + 15.5 = 1474.5^\circ\text{C}$	$\frac{7777}{238 \times 25.6} + 15.5 = 1286.5^\circ\text{C}$	$\frac{7777}{238 \times 30.43} + 15.5 = 1088.5^\circ\text{C}$
Flue gases per lb. of combustible, corresponding to the furnace temperature.	$\frac{7777}{238(2820.5-15.5)} = 11.67$	$\frac{7777}{238(1474.5-15.5)} = 22.39$	$\frac{7777}{238(1286.5-15.5)} = 25.6$	$\frac{7777}{238(1088.5-15.5)} = 30.43$

The losses are due to radiation convection and heat carried away in the flue gases. A table then follows, giving the properties of steam at varying temperatures of pressures, which has already appeared in the *Journal* (No. 390, p. 289). Particulars concerning the calorific power of coal and other combustibles lead up to the theoretical combustion of coal, the full explanation of which is summarised in the following table, showing the amount of oxygen or air necessary for combustion:—

Combustible.	Oxygen, lbs.	Air.	
		lbs.	c. ft.
Hydrogen	8	34.78	430.976
Carbon	2.666	11.59	143.65
Sulphur	1	4.3476	53.872

Centigrade heat units apparently received	74,672,230	59,055,775
Centigrade heat units actually received	72,320,055	57,839,225
Centigrade heat units per lb. of combustible	5968.70	5,640
Pounds of water at 100°C evaporates per lb. of combustible	11.127	10.522
Apparent efficiency	74.18%	70.15%
Heat units to dry coal	832,105	268,090
Pounds of water evaporated at 100° per lb. of combustible equal to drying the coal	128	149

al water evaporated 11'255 10'571
 ual efficiency 75'03% 70'47%
 The rest of the paper is devoted to a general description of gas
 ers, and the Lowe plant in particular. Among a variety of data
 following tables will be found handy for occasional refer-

ative heating value of 1 lb. of carbon and of 1 lb. of carbon in
 in the form of CO burnt in air.

	Heat value per lb.	C. H. U.
1 lb. of carbon.....	8080	8080
2½ lbs. of CO	2403	5607

Loss of heating value by gasification of carbon 2473
 equal to 30.6%

ative heating value of 1 lb. of carbon and of 1 lb. of carbon in
 the form of CO & H burnt in steam.

	C. H. U.
1 lb. carbon heated to 593 (593-15.5) × 2009	= 116'019
5 lbs. water at 15.5 to steam at 100	= 930 75
5 lbs. steam at 100 to steam at 593; 493 × 4805	= 355'32
1 lb. carbon	= 3270
	4672'089

1 lb. carbon	=	8088
2½ lbs. CO .. .	2403	5607
½ lb. H	34462	5743

Less..... 11350
 4672 6678

Loss by gasification by steam 1402
 equal to $\frac{1402}{8080} = 17.3\%$

paper concludes with a comparison of the consumption of fuel
 destructive distillation of coal under the conditions of ordinary
 and the regenerative system.

Trade Notes.

CHESTER CORPORATION OIL STORAGE TANKS.—At the
 ester City Council, on Wednesday, a recommendation of the
 mmittee was adopted to purchase from the Ship Canal Com-
 me three acres or so of land for storage and other purposes by
 mmittee. It was said that the land was for the purpose of
 down oil tanks which would be required for the manufacture of
 il gas. A little more land than was actually needed for these
 as being purchased with the object of using it for the storage of
 pes.

AND GUANO FROM SALMON.—Despatches from British
 ia announce the incorporation of a company for the purpose of
 cturing oil and guano from the trimmings of salmon obtained
 e canneries. Simultaneously with this comes the announcement
 e corporation to utilize the offal from the Columbia River can-

A large plant is now in process of erection on the Columbia
 The total amount of offal from an average season's pack on the
 ia River is between three and four thousand tons, all of
 as been returned to the river heretofore, polluting its waters
 ving the salmon from their natural course to the spawning

KSHOP AND SHOP HOURS ACTS IN MANCHESTER.—The
 tendent of the Sanitary Department of the Manchester Corpor-
 ports, with regard to the work done by the inspectors under
 ts, that, from September 20th to June 19th last, 1,241 defects
 ies and workshops, and 391 in bakehouses, have been reported.
 ases 97 have been referred to the City Surveyor to prepare
 or improvements, 1,109 have been remedied, and 35 not
 d. Of the 391 defects in bakehouses, 366 have been remedied,
 buses closed, and 16 not remedied. In 12 of these cases, the
 Officer of Health reported the premises to be unfit for use on
 grounds, and the sub-committee referred them to the Town
 take legal proceedings against the occupiers. One notice has
 ved, and three occupiers have promised to make good the

Thirteen factories have been reported as not being provided
 tores above the ground floor with such means of escape in
 fire for the persons employed therein as can reasonably be
 under the circumstances of each case. Ten notices have been
 make the necessary provision, two of which have been com-
 th, and three cases referred to the City Surveyor to report

GILDING OF SILK FIBRE.—This object can be attained by impreg-
 nating the silk with a solution of acetate of lead or copper and exposing
 to sulphuretted hydrogen. A thin film of metallic sulphide is by this
 means deposited, and, to prevent its oxidation by air, the silk should
 be placed immediately in a galvanic bath; or a foundation might be
 laid with metallic silver, such as would form on a fibre impregnated
 with nitrate of silver, under the action of phosphoretted hydrogen, or a
 bisulphite, or alkaline glycol, or hydroxylamine. The usual process
 of galvanizing, in a cyanide bath, covers silk thus prepared with an
 exceedingly fine and pliable vellum of gold, which is capable of taking
 a very fine polish.

THE RUSSO-AMERICAN PETROLEUM TRADE.—A rumour has been
 in circulation that an agreement has been concluded in Paris between
 American petroleum firms and the Russian Kerosene Company (the
 Brothers Nobel), by which the kerosene trade in the Mediterranean, as
 well as in Sweden and Norway, was to be left exclusively to the
 brothers Nobel, representing the Russian kerosene firms, while for the
 rest of Europe Russia was to export 35 per cent. and America 65 per
 cent. of the quantity required for consumption. The *Novoe Vremya*,
 however, published recently a communication from the directors of
 the Russian Kerosene Company stating that there exists no agreement
 between them and the American Petroleum Syndicate for the partition
 of the petroleum trade.

ELECTROLYTIC PRODUCTION OF CHLOROFORM.—This method is
 so cheap and expeditious that, according to A. W. Richards, it is
 rapidly displacing all others. An enamelled-iron retort is used, having
 a double bottom by which it is steam-heated. Two lead plates form
 the electrodes. A twenty per cent. solution of common salt is placed
 in the retort, brought to the boiling point; the current is caused to
 flow, and acetone is then passed continuously through the electrolysed
 solution. The free chlorine generated by the electrolysis of the salt
 acts on the acetone, forming chloroform, which distils off and is col-
 lected in a suitably attached condenser. Chloroform thus prepared
 contains no foreign chlorine compounds, and the return per 100 parts
 of acetone is 190 parts of chloroform out of a possible yield of 206
 parts.

ECCLES SEWAGE WORKS.—On Wednesday afternoon, the sewage
 disposal works constructed by the Eccles Town Council at Saltey,
 near Barton, were opened by Councillor Dr. Wm. Smith, chairman of
 the Sewage Disposal Committee. The sewage farm covers an area of
 over seventy acres, and the scheme for the treatment of sewage, which
 is on the intermittent filtration principle, has been prepared by Mr. H.
 L. Hinnell, engineer, Bolton. The contract for laying out the sewage
 farm was let to Messrs. S. and J. Bentley, Leicester. The machinery
 for the sewage disposal works has been supplied by Messrs. Nasmyth,
 Wilson, and Company, Patricroft; and the manager's house and the
 buildings for the reception of the machinery have been erected by
 Messrs. J. Gerrard and Sons, Swinton. The total cost of the works
 has been about £18,000.

THE EAST HAM "GASSING" FATALITIES.—The adjourned in-
 quest on the body of Frederick David Jones, aged 28, who died in the
 West Ham Hospital on the morning of July 2nd, took place at the
 King's Head, Church-street, West Ham, on Wednesday evening.
 Jones was one of the five men who went down a manhole at the East
 Ham Sewage Works, and there became unconscious through meeting
 with foul gas (*C.T.J.*, 424, pp. 1 and 3). When they were ex-
 tracted, four of the men were dead. Jones was unconscious when
 taken out, he having fallen on the top of a grating. Charles King, a
 labourer in the employ of the East Ham District Council, was called,
 and the evidence he gave at the other inquiry was read over. He
 detailed how the men went down the manhole and disappeared. Dr.
 Stuart Ryall Blake, house surgeon at West Ham Hospital, deposed
 that after the deceased was brought to the hospital artificial respiration
 was resorted to, while brandy was administered and the stomach-pump
 used. He never recovered consciousness, and died the next morning.
 Witness was of opinion that he died from poisoning by sulphuretted
 hydrogen. Mr. W. H. Savage, surveyor to the East Ham District
 Council, stated that since the accident a cradle had been obtained and
 it was lowered with the men, so that they could be taken up at a moment's
 notice. In addition, acting on the advice of Dr. Haldane, a mouse or
 a bird had been lowered each time the men went down, and no foul
 gas had been discovered. The Council had also determined not to
 have any part of the manhole covered up, and had also provided a
 respirator, which would enable men to go down amongst any noxious
 gas. The jury returned a verdict that death was due to suffocation by
 sewer gas, and added a rider to the effect that the East Ham District
 Council showed great negligence in not providing proper appliances to
 prevent such an occurrence, and that proper means should have been
 provided to enable anyone at the top of the manhole to pull up any
 man who might have been overcome.

RIVER POLLUTION AT WHITEFIELD.—At the Bury County Police Court, last week, the Urban District Council of Whitefield were summoned in three cases for causing and in three cases for permitting liquid sewage matter to fall into the Unsworth brook. After a lengthy hearing, as the Council are preparing to do what will satisfy the Mersey and Irwell Joint Committee, the magistrates made an order on them to do the requisite work in six months and to pay costs.

THE WEAR RETURNS.—The River Wear Commissioners' trade return for the month of June shows that for that month 506 vessels, of 196,080 tons register, cleared from the port, carrying a total of 314,552 tons of coal. These figures show a decrease of 77 in the number of vessels and 58,492 tons in coal shipments. The total revenue from dues amounted to £9,921. 7s. 10d., against £12,035. 17s. 4d. for June, 1894, a decrease of £2,114. 9s. 6d. The trade returns for the half-year shows that during the half-year ending 30th June, 1895, 2,901 vessels, registering 1,191,301 tons, cleared from the port of Sunderland, the port tonnage rates of which vessels amounted to £11,627. 17s. In the corresponding half-year of 1894 the number of vessels was 3,021, registering 1,305,416 tons, and the port tonnage rates received were £13,505. 15s. 8d.

NOTICES.

LONDON AGENTS

Booksellers and Newsagents may now obtain supplies of
"THE CHEMICAL TRADE JOURNAL"

From

MR. JOHN HEYWOOD,

2, Amen Corner,

On usual trade terms.

Paternoster Row, E.C.

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed MONEY ORDER* is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in tracing and acknowledging foreign remittances is inevitably entailed in this country.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are quiet at 11d. for 90's and 50/90's. Carboic acids are also very quiet, 60% crude being quoted 1s. 7d., and 40% crystals 5½d. There is very little doing in naphtha, the inquiry being small: crude stands at 5½d., and solvent 1s. Creosote and anthracene are unchanged. Pitch firm at 37s. 6d., and 38s. for forward, f.o.b. East Coast.

Sulphate of ammonia is very quiet, there being very little doing on spot at the current nominal values, while forward is quite neglected. London outside makes are quoted £9. 7s. 6d., Liverpool £9. 7s. 6d., Hull £9. 6s. 3d. to £9. 7s. 6d., Leith £9. 6s. 3d.

LIVERPOOL MINERAL MARKET.

In consequence of the holidays our business has been somewhat interrupted, and there is little alteration to report. Manganese is still somewhat firmer, and the few transactions done during the holidays have been at advance figures, whilst the imports are still slow. We anticipate that the demand for the manufacture of ferro-manganese will further enhance the prices rather materially. Ground manganese continues in good demand at £6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous ore is quiet, but with rather more inquiry. Bauxite is in springing demand for chemical and aluminium metal purposes; prices are very firm at 20s. per ton for first quality, 16s. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. Chrome ore: Arrivals have somewhat improved, but as they have all gone direct into consumption against forward delivery, contract prices are not affected, except they are still firmer at 70s. per ton for about 40% ore and 110s. to 115s. per ton for 50% ore, prime quality. French chalk: Arrivals have been rather

backward, whilst stocks are decreasing; prices are firm at 70s. to 85s. to 90s., and 100s. to 110s. per ton for "Angel White" in Plumbago still meets with a good demand for founders' and lubric purposes at £6. to £8. per ton, with other qualities in fair inquiry proportionate prices. Wolfram and scheelite are slightly improved. Ferro tungsten is in quiet demand at 2s. per lb. Fuller's earth in fair demand at unaltered prices. Arsenic is steady at £16. to £16 10s. per ton for good quality. Umbers and ochres meet with rather a demand at unaltered prices.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY

The chief features of interest this week rest with the mineral oil paraffin section. The makers met last week, and finally settle new season's contract prices for burning oil at the values nominally ruling for the past few months, representing an advance of 2d. per gallon on the value a year ago. These are 6½d. and 6¾d. according to quality, works delivery. Delivery at Glasgow and other distribution centres means about a farthing a gallon additional. Since the decision was taken some forward contract sales have been booked, buyers show no hurry as was not infrequently the case in the former low-priced years. Naphtha is now put up to 8d. per gallon, according to the agreement arrived at some three months ago. Lubricating and the solid paraffins are at former price levels, but all fairly held and pretty well cared for. There is no change in sulphate of ammonia which continues very languid, and with a few transactions at £9. 10s. prompt, Leith. Nothing is at present talked of with regard to forwards. In general chemicals there is little that is new, but ship business is reported as being in fair bulk. Caustic soda and sulphur slightly firmer.

Chief prices current are:—Soda crystals, 35s. nett, T. soda ash, 48/56°, £3. 15s. to £4. 10s. nett, Tyne; white ash, 48/52°, £4. 10s. to £5. 5s. nett, Tyne; alum in lump, £5. 10s. Glasgow; caustic soda, white, 74° £9., 70/72° £7. 15s., 66° £6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching powder, £6. 5s. to £7., nett, Tyne; saltcake, 15s.; borax, refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries export, 4¼d. nett, f.o.b. Glasgow; bichromate of soda, 3¼d. nett, Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 5d. less 5%, Liverpool; nitrate of soda, 8 8s. 4¼d.; sulphate of ammonia, £9. 10s. prompt, f.o.b. L. sal ammoniac, first and second white, £39. and £37. nett, port; sulphate of copper, £15. 12s. 6d., less 5%, Liverpool; paraffin, hard, 2½d.; and soft, 1½d. to 2½d. per lb.; paraffin wax 120° refined, 2½d. to 2¾d.; paraffin spirit (naphtha), 8d. per gal paraffin oil (burning), No. 1 6½d., and crystal 6¾d., at works Scotch buyers (English sales 1d. lower); ditto (lubricating) £4. 5s. to £4. 10s.; 885° £4. 15s. to £5., and 890/895° £5. to £5. 10s. Week's sugar imports at Greenock were 8,343 baskets cane refined.

MISCELLANEOUS CHEMICAL MARKET.

The alkali market is steady, with an improving tone, no alteration, however, is yet apparent, and quotations for spot and delivery remain unaltered. Soda ash 1d. per degree f.o.b. Ammonia still offers at £2. 17s. 6d. bags, makers' works, and forward business in this has been done at £2. 17s. 6d. to £3. per bag, f.o.r. Caustic soda is unaltered, both for prompt and forward delivery, and spot prices are as follows:—F.o.b. Liverpool, 77½s. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 60%, £6. 10s.; 10 lots and upwards. Bleaching powder, spot delivery, £6. 17s. 6d. to f.o.r. makers' works, and £7. 5s., hardwood f.o.b. A better demand is reported from America. Recovered sulphur steady, at £3. 12s. and makers are well sold ahead. Chlorate of potash, 4¼d. to 4½d. per lb. Chlorate of soda, 6½d. Sulphate of copper is a dull market, at £15. 5s. to £15. 10s. f.o.b. White powdered arsenic, scarce, at £15. 5s. f.o.r. Garston, &c. Nitrate of soda quiet 7s. 10½d. to 8s. per cwt. There is still a fairly active demand for potash, caustic and carbonate, and prices are steady: good carbon 90/95%, £17. net c.i.f.; caustic potash, 75/80%, £20. c.i.f. Brown acetate of lime, £5. 5s. to £5. 7s. 6d. In white sugar of lead, foreign makes are offering at £22. per ton. Other acetates and acetic acid still very quiet, and without improvement in value. Ammonia salts are generally in fair request. Yellow prussiate of potash neglected, and there are sellers at 7. Sulphocyanides are also offering at low figures. Green copperas is proving in values and stocks have been much reduced. In general chemicals no definite improvement of the market is yet noticeable.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

Palm oil is quiet at £20. 5s. per ton transit, there being doing. There is a fair business in olive at current rates, particularly in Levant and Candia. Linseed keeps firm at 23s. per cwt. for Liverpool makes in export casks. Cottonseed dull at 18s. to 18s. 6d. per cwt. for Liverpool refined, 1s. for American. Castor oil is steady but quiet, there being good seconds Calcutta at 2d. to 2½d., and first pressure per lb. spot. Tallow has been subject to slight changes but is on the whole steady. There are no changes in the for resin, though the demand is decidedly quiet. Spirits of are steady at 21s. per cwt. There is a possibility that be advanced before long. There is a fair demand. Petroleum, there being no quotations either for American or Russian. IRON is steady, without alteration in prices. Oxfordshire, common, £10., medium, £12., best, £15., common, 40s.; medium, 50s., best, 60s.; Welsh, best, 40s., and common, 18s.; Irish, Devonshire, 40s. to 45s., J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. UMBER: Devonshire, 50s. to 55s. White lead, £16. Red lead, Venetian red, £6. to £10. Cobalt: Prepared oxide, black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, oxide of iron: Common, £7.; medium, £10.; finest, £20., £22. 10s. to £25.

TYNE CHEMICAL REPORT.

TUESDAY.

Prices remain without change, and there is only a quiet business. Sulphur is rather more inquired for, prompt and forward, and asking £3. 17s. 6d. per ton. 76/77% caustic in demand, at £9. 10s. per ton. Hypo. soda in stronger inquiry, and have recently taken place.

Gypsum powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton, nett; soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; 48%, £3. 15s. per ton, nett; do., 52%, £4. 2s. 6d. per ton, nett; do., 56%, £4. 10s. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 10s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of sodium, 48%, £6. per ton, nett; do., 1 cwt. kegs, £6. 12s. 6d. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £1. 17s. 6d. per ton, nett; do., 2 cwt. bags, £1. 17s. 6d. per ton, nett; potash, 5½d. per lb., less 6%; pearl hardening, on, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; nitrate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

Prices fairly steady, at 9s. to 9s. 6d. per ton, f.o.b. Tees.

—There is practically no change in prices to report, and generally is only quiet. In consequence of the continued low Durham colliery owners are asking the men to submit to a reduction in wages of 7½ per cent., and notice has been given to that effect. To-day's quotations are for best Northumbrian steam, 1s. 9d. per ton; second qualities ditto, 7s. 9d. to 8s. per ton; 1st, 3s. 3d. to 3s. 6d. per ton; gas coals, 6s. 3d. to 6s. 6d. per ton; coke, 13s. 6d. to 14s. per ton.

THE METAL MARKETS.

IRON, WEDNESDAY.—Pig iron, easy: Scotch warrants closed at 45s. 1d. Middlesbrough 36s. 1½d. cash, and hematite 45s. 1d. active: Chili bars, G. O. B.'s and G. M. B.'s, closed at 44s. to £45. 13s. 9d. cash, and £45. 16s. 3d. to £46. 1s. 3d. cash. Tin, weak, but active: Straits closed at £63. 15s. to cash, and £64. 2s. 6d. to £64. 12s. 6d. three months; £64. 15s. Lead, easier: Spanish, £11.; English, 6d. to £11. 5s.; Silesian spelter, ordinary, £15. 17s. 6d. 2d. Antimony, £32. Quicksilver: first hands, £7. 5s.; 2nd, £7. 3s. Copper shares, steady: Cape, 2½ to 2¾; 1½ to 2¼; Libiola, 3½ to 3¾; Mason and Barry, 2½ to 2¾; Pinto, 17½ to 17¾; Tharsis, 4½ to 5½.

OW, WEDNESDAY.—Market flat, with large business. Copper at 45s. 1d., 45s. 1½d., 44s. 11d., and 44s. 11½d. cash, 3d., 45s. 3½d., and 45s. 1½d. one month; closing with 45s. 11½d. cash, sellers ask 45s. Cleveland done at 36s. 4d.

one month; closing with buyers at 36s. cash, sellers ask 36s. 1d. Cumberland hematite done at 45s. 0½d. and 45s. cash; closing with buyers at 44s. 11½d. cash, sellers ask 45s. Middlesbrough hematite closes with buyers at 43s. 8d. cash, sellers ask 43s. 10d.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—Holidays have again interfered with business, and the weather here of late has interfered with both. The imports this week of Linseed have been 9,978 qrs., viz.: 5,613 qrs. from St. Petersburg, and 4,365 from Calcutta, making a total for the year of 316,999 qrs., against 279,320 qrs. for the same time a year ago. During the week 3,962 tons of cottonseed have arrived from Alexandria, and 1,500 tons from Mersyne, also 376 tons from Smyrna, making a total for the year of 112,588 tons, against 124,545 tons during the same time a year ago. 2,421 qrs. of rapeseed have also arrived from Kurrachee. Linseed oil is steady at 20s. 9d., naked spot; month quoted, 20s. 7½d.; September-December offer at 19s. 9d. to 19s. 7½d.; and January-April at 19s. 6d. to 19s. 4½d.; boiled and refined from £1. to £1. 10s. per ton extra. The export of linseed oil this week has been 1,380 cwt. Refined cotton oil flat and lower; spot, 16s. 0d. to 15s. 10½d. naked; August-October, 16s. 1½d.; November-April offer at 16s. 4½d. Crude offers at 14s. 3d. to 14s. 1½d. spot. New oil for November-April worth 14s. 9d. Casks 17s. 6d., and ordinary barrels 27s. 6d. per ton extra. Export of refined oil for the week has been 1,180 cwt. Spirits of turpentine, 22s. 0d. Castor oil from 2½d. per lb. for first pressure. Olive oil according to origin, £31. to £35. per ton. Siccative oil, £13. per ton. Liquid soap from £14. 10s. per ton.

CAKES.—Linseed cakes firm, but demand slow; 95% pure, £6. 10s. to £6. 12s. 6d.; Russians, £5. 15s. Oil cakes, £5. 7s. 6d. Cotton cakes a steady tone: best makes, £3. 17s. 6d. to £4. 2s. 6d.; seconds, £3. 12s. 6d. to £3. 15s. Rape cakes: Feeding, £4. 5s.; East India, £3. 7s. 6d.; Black Sea, £2. 12s. 6d. per ton.

PAINTS.—Trade continues steady, without anything of a startling character. Prices are: Black, yellow ochre, venetian red, red oxide and blue paints anything from £11. per ton upwards, or ready mixed in bulk from £17. per ton. Red and white leads unchanged, but very low offer are being made from the Continent for bulk orders of white lead. Dry colours unaltered. Paint remover, 25s. to 30s. per cwt. Imperial black varnish from £5. 10s. per ton in barrels.

New Companies.

Steel Brand Cement Factories, Ltd.—CAPITAL £75,000., in £1. shares. This company has been formed to acquire certain clay pits, quarries, &c., in Kent and Sussex, and to manufacture cement, &c. The subscribers to the memorandum of association are:—W. S. Wellborne, 156, Boyson-road, Walworth, clerk; A. Sweeney, 45, Beaton-street, New Cross-road, S.E., clerk; W. Beckitt, 3, Duke-street, Adelphi, accountant; W. Fennell, Shoreham, cement expert; G. T. Reed, 19, Acland-street, Bow, E., clerk; C. B. Andrews, 9, Merrow-street, Walworth, maker; Lieut.-col. J. Poynter, 2, Chester-street, S.W.

Moss Litter and Peat Industries, Ltd.—CAPITAL £225,000., in shares of £1. each. This company has been formed to acquire certain properties, and the business of the Peat Industries Syd., Ltd., and will trade as manufacturers and dealers in peat wool, peat litter, paper pulp, manure, etc. The subscribers to the memorandum of association are:—A. Rivington, Hollydale, Worthing, journalist; J. D. Moul, 37, Kensington Mansions, S.W.; J. S. Lobb, 11, Queen Victoria-street, E.C., solicitor; P. J. Nicholls, 11, Queen Victoria-street, E.C.; solicitor; L. W. Shepherd, 11, Queen Victoria-street, E.C., solicitor; E. W. Piper, 11, Queen Victoria-street, E.C., solicitor; R. Forster, 103, Bancroft-road, Mile-end, E., clerk.

Gazette Notices.

PARTNERSHIP DISSOLVED.

H. G. ELLIS and G. E. EAST, jun., electrical engineers and contractors, St. Ann's-street, Westminster, S.W., under the style of the London Battery Co.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

SMITH, JOHN, Nottingham, oil agent.

Adjudication.

PATEMAN, JAMES, PATEMAN, ALFRED, and PATEMAN, ARTHUR (trading as J. Pateman and Sons), High-road and St. John's-road S., Norwood, oil and colour men etc.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending July 27th.

Acetate of Lime—
U. States, 784 pkgs. Lister & Biggs**Acetic Acid—**
Holland, 123 pkgs. A. & M. Zimmermann**Acetone—**
Holland, 1 pkg. T. H. Lee**Alkali—**
France, 96 c. Arnati & Harrison**Antimony Ore—**
Singapore, 71 t. H. Grey, jun.
E. Turkey, 12 "**Asbestos—**
Italy, £279 Imperial Asbestos Co.

U. States, 9 S. Guiterman & Co.

France, 6 Girard Fra. & Co.

Italy, 55 Girard Fra. & Co.

Canada, 800 W. Byford

N. Russia, 250 Bailey & Leatham

Italy, 575 Pickford & Co.

Canada, 2,000 Brit. Asbestos Co.

Germany, 45 Cape Asbestos Co.

Holland, 60 cks. D. Storer & Sons

Belgium, 34 Moreton Cox Bros.

Germany, 20 Steinhoff, Sons & Co.

Holland, 23 Un. Lige. Co., Ltd.

Belgium, 50 J. L. Lyon & Co.

Germany, 19 S. H. Willoughby

Holland, 57 D. Storer & Sons

Bleaching Powder—
Belgium, 23 pkgs. H. Wallace & Co.**Boric Acid—**
Italy, 12 pkgs. Soda Water Manufacturing Co.**Camphor—**
Germany, 6 pkgs. T. H. Lee

Japan, 11 Lewis & Peat

Germany, 1,635 R. Warner & Co.

Germany, 70 Hale & Son

Caoutchouc—
E. Indies, 176 c. G. Ward & Sons

Zanzibar, 1 L. & I. D. Jt. Co.

Grenada, 66 "

Aden, 65 Lewis & Peat

U. States, 10 Wallace Bros.

Germany, 17 W. Pope & Co.

France, 24 C. S. Lovell

H. Johnson & Sons

E. Indies, 249 Hale & Son

Greytown, 22 E. Boustead & Co.

Germany, 15 Prop. Bull Wf.

Zanzibar, 3 Craven & Co.

E. Indies, 30 Anderson, Weber & Smith

L. & I. D. Jt. Co.

Castor Oil—
France, 56 brls. H. Johnson & Sons

Italy, 20 Beresford & Co.

Italy, 20 cs. Stebbing & Co.

Chemicals (otherwise undescribed)
Belgium, 10 pkgs. T. H. Lee

Germany, 16 Phillips & Graves

Germany, 43 A. & M. Zimmermann

U. States, 25 A. Hughes

Holland, £10 E. Merck

Germany, 2 L. & I. D. Jt. Co.

Germany, 75 T. H. Lee

Brit. Anti-Fouling Co.

Belgium, 11 T. Palmer

Cream of Tartar—
Italy, 8 pkgs. A. E. Pigott

France, 3 Evans, Lecher & Co.

Holland, 4 W. C. Bacon & Co.

Spain, 15 Kirkpatrick & Co.

Holland, 25 B. & F. Wf. Co.

France, 4 W. C. Bacon & Co.

Germany, 12 M. Ashby, Ltd.

Germany, 10 "

" 5 F. C. Devon & Co.
" 2 Ldn. & W. Eng. Yeast Co.**Dextrine—**
Germany, 100 pkgs. Hernu, Peron & Co." 10 H. Lambert
" 50 H. Lorenz**Dyestuffs—**
Argols
Italy, 44 pkgs. Thames S. T. & L. Co.**Cochineal**
Canaries, 36 pkgs. F. Huth & Co.**Divi Divi**
U. States, 72 pkgs. Hoare, Wilson & Co.**Extracts**
France, 8 pkgs. T. H. Lee

U. States, 636 L. & I. D. Jt. Co.

France, 64 Union L. Co.

Denmark, 27 A. F. White & Co.

" 2 Tegner, Price & Co.

Gambier
E. Indies, 892 pkgs. Beresford & Co.

" 442 Ross & Deering

" 470 E. Boustead & Co.

" 274 McDougall & Bonthron

" 2,139 Adamson, Gilliland & Co.

" 983 R. & J. Henderson

" 234 W. Balchin

" 814 L. & I. D. Jt. Co.

" 1,771 Brinkmann & Co.

" 2,684 Adamson, Gilliland & Co.

" 330 W. France & Co.

" 187 S. Barrow & Sons, Ltd.

China, 497 L. & I. D. Jt. Co.

E. Indies, 311 Union L. Co.

" 48 Oastler, Palmer & Co.

Indigo
E. Indies, 54 cts. Park, Macfadyen & Co.

" 9 F. W. Heilgers & Co.

" 90 Arbuthnot, Latnam & Co.

" 12 R. Von Glehn & Sons

" 37 Croysdale & Co.

" 34 Wallace Bros.

" 19 H. Johnson & Sons

" 232 L. & I. D. Jt. Co.

Belgium, 15 Lewis & Peat

Logwood
Jamaica, 9 t. T. Hankey & Co.

" 25 J. Marryat & Sons

Demerara, 23 Colonial Co., Ltd.

Myrabolams
E. Indies, 1,334 pkgs. J. Graves

" 1,000 P. & O. Co.

" 2,033 L. & I. D. Jt. Co.

" 800 W. France & Co.

Tanner's Bark
Cape, 32 t. Dyster, Nalder & Co.

Belgium, 38 Sawyer, Sons & Co.

Melbourne, 50 A. & W. Nesbitt

Cape, 27 Goad, Rigg & Co.

Natal, 135 A. & W. Nesbitt

Adelaide, 89 Brown & Elmslie

Belgium, 39 Leach & Co.

Adelaide, 25 A. & W. Nesbitt

" 26 Dyster, Nalder & Co.

Natal, 20 J. Greig

" 16 Union L. Co.

" 190 Flack, Chandler & Co.

Turneric
E. Indies, 63 pkgs. Lucas & Spencer's Wf. Ltd.

" 66 Devitt & Hett

" 91 Prop. Bull Wf.

Germany, 197 G. & H. Green

E. Indies, 100 Hale & Son

Valonia
A. Turkey, 205 t. A. & W. Nesbitt

" 50 Hoare, Wilson & Co.

" 231 Hicks, Nash & Co.

Dardanelles, 20 Hoare, Wilson & Co.

A. Turkey, 50 J. Kitchin, Ltd.

Dyestuffs (otherwise undescribed)
E. Indies, 9 pkgs. J. P. Alpe & Co.

France, 1 Hernu, Peron & Co.

Farina—
Germany, 25 pkgs. R. G. Hall & Co.

Holland, 100 C. Tennant, Sons, & Co.

" 50 J. Knill & Co.

" 100 H. Lorenz

Glucose—
U. States, 50 pkgs. 300 c. C. Southwell & Co.

Germany, 22 130 J. Knill & Co.

U. States, 450 450 Fellows, Morton, & Co.

" 150 900 Soundy & Sons

" 250 1,375 T. M. Duche & Sons

" 100 100 Thames S. T. & L. Co.

" 100 100 S. E. Railway

" 150 150 Barrett, Tagant, & Co.

" 500 500 Beck & Pollitzer

" 875 2,171 R. G. Hall & Co.

" 1,320 1,320 Pearce, Pelley & Co.

" 1,000 1,000 G. Clark & Son

France, 200 200 L. Norman & Co., Ltd.

Glue—
" £699**Magnesia—**
Holland, 10 pkgs. Beresford & Co.

Germany, 48 Berger, Kahler, & Co.

Manure—
Melbourne, 31 t. Low, Sons, & Bedford

Germany, 20 W. G. Blagden

" 65 A. Zumbek & Co.

" 27 Fox, Roy, & Co.

Belgium, 12 Deering & Robottom

" 12 T. M. Duche & Sons

Methyl Alcohol—
Holland, 100 pkgs. Lister & Biggs

Germany, 11 dms. Stein Bros.

Mica—
E. Indies, £1074 W. M. Smith & Sons**Molasses—**
B. Guinea, 122 cks. 1,008 c. L. & I. D. Jt. Co.

B. W. I., 200 2,650 J. Newcomb

Ochre—
France, 77 cks. 41 pkgs. W. Harrison & Co.

Holland, 48 Phillips & Graves

Phosphate Rock—
Belgium, 135 t. Lawes Manure Co., Ltd.

U. States, 150 Odams Manure Co.

U. States, 2,927 Anglo-Contl. G. Wks.

Pitch—
U. States, 33 pkgs. Dusk Bros. & Co.

N. Russia, 550 brls. Fellows, Morton, & Co.

Plumbago—
Germany, 34 cks. B. Gallaway

Italy, 89 Brown & Elmslie

" 80 bgs. F. J. Putz & Co.

Potash—
Canada, 130 c. J. Barber & Co.

" 89 Charles & Fox

" 49 S. Ward & Co.

Potassium Bicarbonate—
Germany, 42 c. H. Lambert

Holland, 45 A. & M. Zimmermann

Potassium Carbonate—
Germany, 70 c. Petri Bros.

Germany, 95 "

Potassium Sulphate—
Germany, 116 pkgs. W. G. Blagden

" 508 Anglo-Contl. G. Wks.

France, 21 C. J. Langmead

Belgium, 200 F. W. Berk & Co.

Pumice Stone—
Italy, 1½ t. E. Fellingham**Quicksilver—**
Italy, 200 btl. H. Bath & Son**Rosin—**
U. States, 1,500 brls. H. Hill & Sons

" 2,500 J. Knight & Sons

" 855 F. & S. Chiesman & Co.

" 200 Prod. Brokers' Co.

Saltpetre—
Germany, 45 cks. J. Hall & Son

Holland, 40 P. Hecker & Co.

Sodium Acetate—
France, 11 pkgs. Union L. Co.**Sodium Sulphide—**
Holland, 25 pkgs. R. W. Greeff & Co.**Starch—**
Germany, 160 pkgs. T. H. Lee

Belgium, 130 Vokins & Co.

Holland, 400 Arnati & Harrison

Belgium, 370 Prop. Scott's Wf.

" 900 T. Ronaldson & Co.

" 42 F. Claydon & Co.

" 131 Taylor Bros.

Holland, 40 Little & Johnston

" 1,240 Baynham & Co.

Belgium, 40 Horne & Co.

Germany, 830 Prop. Scott's Wf.

Holland, 150 G. Kelen & Co.

" 40 Philipps & Graven

" 215 "

Stearine—
France, 120 bgs. Walbaum & Tosetti

U. States, 130 H. Hill & Sons

Holland, 318 Palmer & Co.

Sulphur—
Italy, 100 t. B. & F. Wf. Co.

" 100 Johnson & Hooper

Tartaric Acid—
Italy, 35 pkgs. B. & F. Wf. Co.

Holland, 48 Kirkpatrick & Co.

Turpentine—
Savannah, 5,364 brls. Nickoll & Knight

" 1,059 Prod. Brokers' Co., Ltd.

Ultramarine—
Germany, 56 pkgs. Moreton Cox Bros.

Belgium, 6 W. Harrison & Co.

Holland, 33 Thames S. T. & L. Co.

Germany, 6 H. Lambert

Holland, 8 Hermu, Peat & Co.

" 6 cks. Magee, Taylor, & Co.

" 14 pkgs. Haefner, Hüper, & Co.

" 4 9 cs. W. Harrison & Co.

Varnish—
U. States, 3 pkgs. Smellie & Co.

Spain, 2 Allan Bros. & Co.

" 2 Magee, Taylor & Co.

Italy, 1 G. S. N. Co.

Verdigris—
France, 5 pkgs. B. & F. Wf. Co.**Vermilion—**
Hong Kong, 20 cs. W. M. Smith & Sons**White Lead—**
Holland, 8 cks. P. Janssen

Belgium, 16 J. L. Lyon & Co.

France, 24 W. Harrison & Co.

Germany, 22 S. H. Willoughby

" 45 M. Ashby, Ltd.

" 30 Randall Bros.

" 4 Spies, Bros. & Co.

" 11 Elkan & Co.

" 26 N. J. Pepper & Co.

Wood Pulp—
Germany, 74 pkgs. H. Everett

Sweden, 30 Henderson, Craig & Co.

Norway, 283 W. G. Taylor & Co.

" 476 C. S. Lovell

" 4,499 Tough & Henderson

Germany, 163 O. Herlich

Holland, 702 Philipps & Graven

Norway, 300 Moreton Cox Bros.

Zinc Oxide—
Holland, 162 brls. M. Ashby, Ltd.

U. States, 200 "

LIVERPOOL.

Week ending July 25th.

Albumen—
Naples, 17 pkgs.**Antimony Ore—**
Mollendo, 76 pkgs.**Arachide Oil—**
Marseilles, 25 cks.

enic—
 umburg, 15 kgs.
estos—
 atterdam, 7 bgs. 5 bls. 1 crt.
 ebec, 600 Bell's Asbestos Co.
ytes—
 twerp, 112 cks. 50 bgs.
e Meal—
 cutta, 1,176 bgs.
acic Acid—
 ghorn, 12 cks. Pickford & Co.
 30
ax—
 illendo, 513 pkgs. A. & S. Henry
 1,162
or Oil—
 ghorn, 8 cs.
 cutta, 1,000 Ralli Brs
 seilles, 10 14 cks. 548 brls.
urs—
 umburg, 1 ck.
 ent, 6 brls. J. T. Fletcher & Co.
 17 1 cs.
onseed Oil—
 Orleans, 4,481 brls.
um of Tartar—
 celona, 5 tubs Sachse & Klemm
 deaux, 14 cks.
 celena, 25
stuffs—
 rgols
 orto, 23 cks. German Bk. of London
 ras, 9 brls. M. D. Frangopulo & Co.
ochineal
 Palmas, 30 bgs. Kennedy & Moore
extracts
 e York, 10 bxs. W. Bingham
 me, 300 brls. Oak Extract Co., Ltd.
 deaux, 100 cks.
 timore, 65 50
 me, 509
 seilles, 250
astic
 a Cruz, 4,863 lbs. 1,633 ps. Ledward, Bibby & Co.
 " 2,916 R. B. Watson & Co.
 opico, 4,390 stks. D. Midgley & Sons
 " 3,019 W. H. Thompson & Co.
 anilla, 1,238
 tagena, 646 T. Ruete & Co.
 ste, 5 t. A. Cross & Co.
 on, 403 ps. W. Duranti & Son
adder
 terdam, 1 ck.
myrabelams
 bay, 550 bgs. D. Sassoon & Co.
 1,619
 436 A. Ewart & Co.
mac
 rmo, 1,305 bgs.
urmeric
 cutta, 500 bgs. Ralli Brs.
 bav, 395
alonia
 as, 380 bgs.
 1,926 C. J. Papayanni & Jeremias
 gomestre, 3,524
ia—
 ate, 100 bgs. N. & W. Jackson
80—
 umburg, 219 cks.
 e York, 548 brls.
 on, 100
 188 G. E. Bartel & Co.
 en, 46 cks. 30 cs. Co-op. W'sale Society, Ltd.
 erdam, 1 10 bgs.
 seilles, 100 bls.
 saire, 10 10 cs.
orial Earth—
 umburg, 262 bgs.

Iron Oxide—
 Trieste, 26 cks.
Mercury—
 Rotterdam, 5 cs.
Mineral—
 Vera Cruz, 2,702 bgs. Bessler, Waechter & Co.
Mineral White—
 Fiume, 150 bgs.
Minium—
 Rotterdam, 8 crts.
Ochre—
 Marseilles, 130 brls.
Paraffin Scale—
 New York, 846 brls. Thompson & Bedford
 Baltimore, 500
Pitch—
 Marseilles, 25 brls.
Plumbago—
 Genoa, 100 bgs. G. Huntriss & Co.
Potashes—
 Hamburg, 95 cks.
 Montreal, 6 brls. Makin & Bancroft
 Rouen, 103 Co-op. W'sale Society, Ltd.
 Antwerp, 10 dms.
 Montreal, 25
Potassium Silicate—
 Hamburg, 2 brls.
Pumice Stone—
 Catania, 100 bgs.
Pyrites—
 Huerva, 4,163 t. Matheson & Co.
Rosin—
 Boston, 1,073 brls.
 N. Orleans, 1,000
Saltpetre—
 Hamburg, 30 kgs. 99 brls.
 Calcutta, 432 bgs. Ralli Brs.
Soap—
 Genoa, 400 cs. Pacific S. Nav. Co.
 Leghorn, 20
 New York, 50 brls.
 Newport News, 408
 N. Orleans, 46
 Marseilles, 7 F. W. Nicholson
 100
Soapstone—
 Trieste, 100 bls. W. Harrison & Co.
Starch—
 Hamburg, 136 cs.
 Boston, 10 brls. J. Armstrong & Co.
 Antwerp, 100 T. Ferguson & Co.
 Rotterdam, 112 J. T. Fletcher & Co.
 Amsterdam, 10 cks.
Stearine—
 New York, 40 hds.
 Antwerp, 13 bgs.
Sulphur—
 Catania, 150 cks. 40 bgs. 67 brls.
Tallow—
 B. Ayres, 60 hds. 323 cks. 336 pps.
 340 hf.-pps.
Tartaric Acid—
 Catania, 10 cks.
 Hamburg, 1 ck. 1 cs.
 Marseilles, 4 10 brls.
Treacle and Molasses—
 Boston, 25 brls.
 N. Orleans, 2,450
Ultramarine—
 Hamburg, 4 cks.
Varnish—
 Boston, 5 cs. 5 brls. W. H. Staynes & Smith
Waste Salt—
 Hamburg, qty. and 4,064 bgs.
White Lead—
 Antwerp, 14 cks.
 Rotterdam, 58
Wood Pulp—
 Frederiksh'ld, 3,520 bls. H. Tyrer & Co.
 Rotterdam, 100
 Gothenburg, 5,168
 Ronneby, 850
Wood Spirit—
 Hamburg, 2 dms.
Zinc Ashes—
 Marseilles, 10 brls.
Zinc Oxide—
 Antwerp, 75 cks.

Rotterdam, 25
Zinc Skimmings—
 New York, 10 cks.
Zinc White—
 Rotterdam, 125 cks. O. & H. Marcus
 " 100

MANCHESTER.

Week ending July 27th.

Acetate of Lime—
 New York, 813 bgs.
Barytes—
 Rotterdam, 3 cks.
Chrome Alum—
 Rotterdam, 31 brls.
Colours—
 Hamburg, 2 cks. 2 cs.
 Antwerp, 3 10
 Treport, 4 1 Arnati & Harrison
 Rotterdam, 1 10 bxs. 38 brls.
 Stettin, 76
Dextrine—
 Stettin, 50 bgs. 20 cks.
Dyestuffs—
 Extracts
 Treport, 3 bls. 12 cs. 21 cks. Arnati & Harrison

Logwood
 Morant Bay, 250 t.
Shumac
 Palermo, 50 bgs.
Sumac Extract
 Hamburg, 5 cks.
Glucose—
 New York, 150 brls. T. M. Duche & Sons
 Stettin, 1,200 bgs.

Glue—
 Hamburg, 4 cks.
 Antwerp, 2 33 bls

Limestone—
 Antwerp, 3 crts.

Mineral White—
 Fiume, 450 bgs.

Nitrate—
 Rotterdam, 2 cks.

Pitch—
 Rotterdam, 23 cks.

Potash—
 Hamburg, 5 cks.
 Treport, 7 Arnati & Harrison

Sodium Phosphate—
 Rotterdam, 23 cks.

Sodium Nitrate—
 Rotterdam, 4 cks.

Starch—
 N. York, 8 brls. 10 crts.
 160 hf.-bxs. 320 thd.-bxs. } J. Holden

Hamburg, 76 cs.
 Ghent, 14

Antwerp, 190
 Rotterdam, 96 bxs.

Fiume, 305 bgs.

Sulphuric Acid—
 Rotterdam, 10 dms.

Tartar Emetic—
 Hamburg, 8 cs.

Tin Perchloride—
 Antwerp, 2 cs.

Ultramarine—
 Hamburg, 3 cks.

Waste Salt—
 Hamburg, qty.

White Lead—
 Rotterdam, 8 cks.

Wood Pulp—
 Sannesund, 3,112 bls.

Wood Spirit—
 Hamburg, 4 dms.

Zinc Oxide—
 Rotterdam, 45 brls.

HULL.

Week ending July 27th.

Acetate—
 Rotterdam, 4 cks. W. & C. L. Ringrose

Acetic Acid—
 Rotterdam, 3 cks. Hutchinson & Son

Acid—
 Bari, 28 cks. Wilson, Sons, & Co., Ltd.

Rotterdam, 2 Hutchinson & Son
 Dunkirk, 3 cs. Wilson, Sons, & Co., Ltd.

Albumen—
 Hamburg, 5 cks. Wilson, Sons, & Co., Ltd.

Libau, 12 cs.

Barytes—
 Rotterdam, 72 cks. 10 bgs. Hutchinson & Son

Antwerp, 105 100 bgs. Bailey & Leatham

Rotterdam, 52 W. & C. L. Ringrose

" 50 bgs. Wilson, Sons, & Co., Ltd.

Bremen, 52

Cellulose—
 Trieste, 600 bls. Wilson, Sons, & Co., Ltd.

Chemicals (otherwise undescribed)
 Danzig, 1 pkge.

Rotterdam, 1 cs. W. & C. L. Ringrose

Hamburg, 2 cks. Wilson, Sons, & Co., Ltd.

" 11 5 brls. 1 cs. Veltmann & Co

Antwerp, 39 pks. Wilson, Sons, & Co., Ltd.

Cod Oil—
 Aalesund, 152 brls.

Christiania, 70 Wilson, Sons, & Co., Ltd.

Bergen, 56 cks. "

Colours—
 Antwerp, 27 pks. 10 cs. Wilson, Sons, & Co., Ltd.

Stettin, 29 cks.

Rotterdam, 10 25 pks. 4 brls. Hutchinson & Son

" 8 cs. 149 1 bx. 295 pkgs. W. & C. L. Ringrose

" 1 11 Wilson, Sons, & Co., Ltd.

Cream of Tartar—
 Rotterdam, 2 cks. W. & C. L. Ringrose

Cryolite—
 Copenhagen, 2 cks. Wilson, Sons, & Co., Ltd.

Dextrine—
 Stettin, 500 bgs. Wilson, Sons, & Co., Ltd.

Dyestuffs—
 Alizarine
 Rotterdam, 15 pks. Hutchinson & Son

" 72 16 cks. W. & C. L. Ringrose

Myrabelams
 Bombay, 9,827 bgs. 1,300 pkts.

Sumac
 Trieste, 35 bgs. Wilson, Sons, & Co., Ltd.

Palermo, 1,890
 650 "

Valonia
 Trieste, 89 bgs. Wilson, Sons, & Co., Ltd.

Smyrna, 3,371 10,090 c.

Farina—
 Ghent, 52 cs. Wilson, Sons, & Co., Ltd.

Stettin, 500 bgs. "

Dunkirk, 50 "

Glucose—
 Stettin, 200 bgs. 21 cks. Wilson, Sons, & Co., Ltd.

Glue—
 Rouen, 29 cks. 50 bgs. Rawson & Robinson

Antwerp, 1 White & Son

Rotterdam, 6 5 bgs. W. & C. L. Ringrose

Antwerp, 20 Bailey & Leatham

Dunkirk, 22 Wilson, Sons, & Co., Ltd.

Rotterdam, 40 bgs. Hutchinson & Son

Kieselguhr—
 Stavanger, 85 bgs. Wilson, Sons, & Co., Ltd.

Lamp Black—
 Antwerp, 20 cs. Wilson, Sons, & Co., Ltd.

Manure—
 Ghent, 500 bgs. Wilson, Sons, & Co., Ltd.

Minium—
 Rotterdam, 17 cks. W. & C. L. Ringrose

Ochre — Rouen,	25 cks.	Hutchinson & Son
Ozokerit — Stettin,	240 bgs.	Wilson, Sons, & Co., Ltd.
Paint — Christiania,	1 tin	Wilson, Sons, & Co., Ltd.
Potash — Rotterdam,	20 dms.	W. & C. L. Ringrose
Pumice Stone — Messina,	45 cs.	Wilson, Sons, & Co., Ltd.
Rosin — Brunswick, Ga.,	2,100 brls.	
Rosin Oil — Hamburg,	10 brls.	Wilson, Sons, & Co., Ltd.
Saltpetre — Antwerp,	135 bgs.	Wilson, Sons, & Co., Ltd.
Soap — Bari,	3 cs.	Wilson, Sons, & Co., Ltd.
	Riga,	25 "
Sodium Nitrate — Hamburg,	50 kgs.	Wilson, Sons, & Co., Ltd.
Starch — Rotterdam,	82 cs.	Hutchinson & Son
	Bremen,	1,930 Veltmann & Co.
	Antwerp,	200 Wilson, Sons, & Co., Ltd.
Stearine — Antwerp,	148 bgs.	Wilson, Sons, & Co., Ltd.
Tar — Uleaborg,	3 hf. brls.	Wilson, Sons, & Co., Ltd.
	Stavanger,	2 brls.
	Uleaborg,	1,065 230 hf. brls. J. Good & Sons
Tartaric Acid — Rotterdam,	3 cks.	W. & C. L. Ringrose
Turpentine — Brunswick, Ga.,	1,847 brls.	
Ultramarine — Rotterdam,	8 cks.	Hutchinson & Son
	Bremen,	14 "
Vermillion — Bremen,	1 cs.	Veltmann & Co.
White Lead — Amsterdam,	57 cks.	J. Good & Sons
	Antwerp,	36 Bailey & Leatham
	Rotterdam,	62 W. & C. L. Ringrose
		17 Hutchinson & Son
Wood Pulp — Helsingfors,	47 bls.	J. Good & Sons
	"	37 Furley & Co.
	"	225 "
	Hamburg,	10 Bailey & Leatham
	"	5 Furley & Co.
Zinc Oxide — Antwerp,	50 cks.	Bailey & Leatham
Zinc White — Rotterdam,	20 cks.	W. & C. L. Ringrose

GLASGOW.

Week ending August 1st.

Aniline — Rotterdam,	7 brls. 5 bxs.	J. Rankine & Son
Aniline Salts — Rotterdam,	9 cks.	J. Rankine & Son
Barium Chloride — Rotterdam,	4 cks.	J. Rankine & Son
Barytes — Rotterdam,	38 cks.	J. Rankine & Son
Bone Meal — Bombay,	2,962 bgs.	
Castor Oil — Marseilles,	252 brls. 10 cs.	
Chromium Chloride — Rotterdam,	1 brl.	J. Rankine & Son
Colours — Hamburg,	2 cs.	
	Antwerp,	4 cks.
	Rotterdam,	22 pkgs.
Cottonseed Oil — Baltimore,	100 brls.	W. T. Geddes
Cream of Tartar — Marseilles,	5 brls.	
	Barcelona,	40 cks.
Dyestuffs — Alizarine Rotterdam,	3 brls.	J. Rankine & Son
		79 pkgs.
	Argols Bordeaux,	52 cks.
	Extracts Baltimore,	5 brls.
	New York,	50 70 bxs.
	Madder Rotterdam,	6 cks. J. Rankine & Son
Myrabolams Bombay,	590 bgs.	
Valonia Marseilles,	288 bls.	
Farina — Antwerp,	3 bgs.	
	Delfsahl,	500 "
Glucose — Boston,	400 brls.	
Glue — Hamburg,	7 cks.	
Guano — Talknafjord,	910 sks.	
Infusorial Earth — Rotterdam,	27 bgs.	J. Rankine & Son
Lead Acetate — Hamburg,	24 cks.	
Naphthol — Rotterdam,	1 cs.	J. Rankine & Son
Ochre — Marseilles,	17 cks.	
Potashes — Montreal,	7 brls.	
	Rotterdam,	24 cks. J. Rankine & Son
Rosin — New York,	500 brls.	

Salt — New York,	1 crt.	
Starch — New York,	400 bgs.	
	Amsterdam,	20 bxs.
	Rotterdam,	45 cs. J. Rankine & Son
Stearine — Rotterdam,	17 cks.	J. Rankine & Son
	New York,	5 tcs.
Tartar — Bordeaux,	8 cks.	
Tartar Emetic — Hamburg,	3 cks. 5 cs.	
Treacle — Boston,	100 brls.	
Ultramarine — Rotterdam,	3 cks. 7 cs.	J. Rankine & Son
Varnish — New York,	4 pkgs. 15 brls.	
Waste Salt — Hamburg,	660 bgs. 543 cks.	
White Lead — Rotterdam,	125 cks.	J. Rankine & Son
Wood Pulp — Christiania,	2,440 bls.	
Zinc Oxide — Rotterdam,	2 cks.	J. Rankine & Son
	New York,	200 brls.
Zinc White — Rotterdam,	50 cks. 50 cs.	J. Rankine & Son

TYNE.

Week ending July 27th.

Alum Earth — Hamburg,	17 cks.	Tyne S. S. Co.
Barytes — Rotterdam,	57 cks. 10 bgs.	Tyne S. S. Co.
	Antwerp,	110 "
Colours — Rotterdam,	20 cs.	Tyne S. S. Co.
	Hamburg,	607 pkgs. "
Glucose — Hamburg,	7 cks.	Tyne S. S. Co.
Glue — Hamburg,	20 bls.	Tyne S. S. Co.
Kieselguhr — Bergen,	232 bgs.	
Limestone — Antwerp,	1 crt.	Tyne S. S. Co.
Plumbago — Antwerp,	31 bgs.	Tyne S. S. Co.
Rosin — Hamburg,	206 cks.	Tyne S. S. Co.
Saltpetre — Hamburg,	3 cks.	Tyne S. S. Co.
Soap — Rotterdam,	10 cs.	Tyne S. S. Co.
Starch — Rotterdam,	188 cs.	Tyne S. S. Co.
Sulphur — Hamburg,	2 cs.	Tyne S. S. Co.
Waste Salt — Hamburg,	275 t.	

Wood Pulp — Laurvig,	120 bls.	
Zinc Oxide — Antwerp,	5 brls.	Tyne S. S. Co.

GOOLE.

Week ending July 27th.

Acetic Acid — Rotterdam,	2 cs.	
Alkali — Rotterdam,	2 cks.	
	Calais,	2 "
Alum — Rotterdam,	60 brls.	
Aniline — Ghent,	4 cks.	
	Hamburg,	7 2 cs.
Colours — Hamburg,	7 cks. 15 cs.	
Dyestuffs — Alizarine Rotterdam,	10 cks.	
Dyestuffs (otherwise undescr.) Rouen,	46 cks.	
	Rotterdam,	95 16 cs.
	Antwerp,	4 "
	Ghent,	10 1 "
	Boulogne,	13 3 21 pkgs.
	Hamburg,	1 "
Farina — Delfsahl,	1,355 bgs.	
	Hamburg,	260 "
Glue — Rotterdam,	20 bgs.	
Phosphate — Ghent,	200 bgs.	
Potash — Rotterdam,	4 cks.	
	Dunkirk,	15 dms.
	Calais,	10 "
	Antwerp,	4 "
Saltpetre — Rotterdam,	30 kgs. 132 bgs.	
	Antwerp,	142 "
	Hamburg,	26 cks.
Varnish — Antwerp,	3 cks.	

GRIMSBY.

Week ending July 27th.

Albumen — Hamburg,	3 cks.	
Aluminium — Hamburg,	1 cs.	
Aniline Dyes — Hamburg,	34 pkgs.	
	Antwerp,	55 25 cks.
Caoutchouc — Hamburg,	1 pkg.	
	Rotterdam,	1 cs.
Chemicals (otherwise undescr.) Hamburg,	9 cks. 7 cs.	
	Antwerp,	4 "
Colours — Antwerp,	31 cks. 2 cs.	
	Rotterdam,	20 "
	Hamburg,	1 2 "
Dyestuffs (otherwise undescr.) Dieppe,	17 cks.	

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending July 31st.

Acids — Calcutta,	5 cs.	£23
	Algoa Bay,	60 50
	Natal,	50 105
Alkali — Singapore,	10 c.	£7
	Timaru,	1 t.
	Algoa Bay,	6 48
Alum — Mogador,	10 t. 1 c.	£60
Alum Cake — Calcutta,	15 t. 3 c.	£65

Ammonia — Adelaide,	5 c.	£13
	Calcutta,	8 pkgs. 30
	Natal,	1 t. 12 50
Ammonium Bicarbonate — Adelaide,	10 c.	£21
Ammonium Carbonate — Sydney,	19 c. 20 cs.	£61
	New York,	10 t. 3 310
	B. Ayres,	1 35
Ammonium Chloride — Trebizonde,	15 c.	£28
	Calcutta,	1 t. 10 c.
	Constantinople,	1 35
	Varna,	14 25

Ammonium Sulphate — Demerara,	15 t.	£154
	Hamburg,	22 210
Anhydrous Ammonia — Cologne,	20 cydls.	£95
Arsenic — Amsterdam,	10 cks.	£34
Barium Nitrate — Calcutta,	1 t.	£20
Bisulphite of Lime — Calcutta,	1 t. 10 c.	£28
Bleaching Powder — Melbourne,	10 t. 1 c.	£125

Borax — Dunedin,	10 kgs.	20
	Melbourne,	1 t.
	Auckland,	1 t.
	Salonica,	1 1 c.
	E. London,	3 50
Carbonic Acid Gas — Guernsey,	46 tubes	
Caustic Potash — Melbourne,	1 t. 11 c.	
Caustic Soda — Calcutta,	25 t.	
	Algoa Bay,	2 10 c.
	E. London,	9 15
	Adelaide,	1 1
	Melbourne,	4 1

icals (otherwise undes.)—	
ey, 6 cks. 10 c.	£38
ru, 10 cs. 10 kgs.	74
a Bay, 5	2
ide of Lime—	
a Bay, 10 c.	6
Acid—	
m,, 10 c.	£60
sa, 5	33
omalec, 1 cs.	7
i, 1 ck.	7
a Bay, 2	12
erdam, 2 kgs.	12
els, 1	31
tchurch, 5	35
enburgh, 5	32
gne, 2	12
Products—	
azol, 38 drs. 60 cks. 15 pns.	£566
rbolic Acid	
rdam, 49 cks.	£155
al Tar Dyes	
m, 15 cks.	£160
osote	
pe, 23,500 glns.	£123
phthaline	
Vork, 181 cks.	£228
ita, 30	13
burg, 41 26 bgs.	82
alery, 150	90
ramin Wax	
urne, 5 cs.	£16
ch	
burg, 29 brls.	£65
m, 290	150
Kong, 538 cks.	314
erp, 675 t.	1,187
ide, 35 pkgs.	13
astle, 10	10
ide, 150 drs.	£32
astle, 10 runs	16
Oil	
gne, 60 brls.	£60
urg, 250 cks.	156
uol	
gne, 31 cks.	£101
r Sulphate—	
ngfors, 17 c.	£15
aux, 75 t.	1,104
rbury, 1	10
a, 9 19	156
u, 1 10	27
u, 15	255
of Tartar—	
ide, 2 16	191
urne, 1 20 kgs.	143
ry, 6	404
ectants—	
ide, 13 c.	£17
ita, 25 cks. 30 drs.	42
ndria, 110 pkgs.	47
ry, 14 t. 1 c.	222
tchurch, 94 pkgs.	30
a, 131 10 cs. 10	56
urne, 260 t.	£2,600
re—	
va, 3 t. 15 c.	£32
mburg, 39	108
Acid—	
horic Acid—	
ce, 30 chys.	£44
ce, 15 t.	£206
horus—	
ide, 10 cs. 2 c.	117
ium Bichromate—	
ita, 3 t. 8 c.	£148
antinople, 14	30
ium Chlorate—	
ita, 1 t.	£44
ibo, 2 cs.	10
a, 10 c.	23
ium Cyanide—	
i, 1 ck.	£10
a Bay, 25 cs.	369
tre—	
tchurch, 2 t.	£45
ira, 10 c.	14
ide, 3	66
h, 11	12
ay, 2 4	48
ine, 1	22
itar, 10	11
urne, 5	113
urne, 3 5	76
Dip—	
ng, 16 c.	£28
y, 500 cs. 5 t.	1,563
urne, 100 cks. 100 drs.	875

Falklands, 4 t. 9	175
E. London, 250	48
B Ayres, 1,000 cs. 38	12
Sydney, 1 t. 13 c.	£10
Soda Ash—	
Auckland, 10 t.	£61
Soda Crystals—	
Newcastle, 64 t. 10 c.	126
Sodium Bicarbonate—	
Trinidad, 2 t. 10 c.	£19
Marseilles, 10	71
Demerara, 1	7
Brisbane, 10	8
Melbourne, 15	22
Nelson, 15	6
Sodium Bisulphite—	
Lyttelton, 5 t. 10 c.	£16
Sodium Carbonate—	
Madras, 5 c.	£11
Sodium Tartrate—	
Melbourne, 5 cs.	£15
Sodium Nitrate—	
Calcutta, 2 t. 14 c.	£74
Sulphur—	
Demerara, 1 t. 14 c.	£14
E. London, 1 40 kgs. 20 cks.	30
Melbourne, 5	50
Algoa Bay, 30 10	22
Sulphuric Acid—	
Trincomalee, 2 t. 12 c.	£25
Singapore, 2 10	24
E. London, 61 cs.	48
Superphosphates—	
Mauritius, 192 t. 16 c.	£747
Tartaric Acid—	
Algoa Bay, 2 c.	£10
Cape Town, 3 kgs. 2	25
Newcastle, 13	71
Adelaide, 1 t. 15	180
Melbourne, 1	55
Sydney, 1	98

LIVERPOOL.

Week ending July 31st.

Acetate of Iron—	
Pernambuco, 1 t.	£10
Albumen—	
Boston, 15 bgs.	£70
Alum—	
San Francisco, 26 t. 18 c.	£130
Galatz, 2	10
Ancona, 5 7	26
Lisbon, 6	30
Santos, 2 9	11
Pernambuco, 11	4
Toronto, 5 1 3 q.	25
Alumina Sulphate—	
Boston, 1 t.	1 q. £30
Ammonium Carbonate—	
Rangoon, 6 c.	£9
Lisbon, 12	20
Ancona, 10	17
Vigo, 13 3 q.	24
Corunna, 5 1	8
Melbourne, 10 cs.	16
Montreal, 1 t. 6 c.	3 q. 33
Ammonium Chloride—	
Barcelona, 1 t. 1 c.	£26
Gothenburg, 14	16
Genoa, 1 10	42
Ancona, 10 10	18
Bari, 18 2	34
Trieste, 1	35
Mersyne, 1	37
Palermo, 6	10
Ammonium Sulphate—	
Sourabaya, 151 t. 2 c.	£1,610
Barbadoes, 103 10	1 q. 1,035
Cheribon, 132 18	1,358
New York, 50 5	490
Philadelphia, 25 10	248
Teneriffe, 5 10	55
Genoa, 35 8	347
Leghorn, 10	97
Selde, 2	20
Gd. Canary, 8	79
Samarang, 115 5 2	1,306
Valencia, 100 11 3	991
Las Palmas, 27	275
Antimony—	
Havana, 2 cks.	
Paranagua, 4 kgs.	
Arsenic—	
B. Ayres, 10 t.	£170
Dunedin, 1	23
Asbestos—	
Philadelphia, 1 cs.	
Barium Nitrate—	
Palermo, 5 c.	£7
Bleaching Powder—	
Ancona, 7 cks.	
Baltimore, 272	
Boston, 340	125 cs.
Calcutta, 5	
Gothenburg, 5	
Leghorn, 70	
Montreal, 30	
Naples, 33	
Newport News, 104	
New York, 258	
Oporto, 20	
Pasages, 20	
Philadelphia, 30	
San Sebastian, 30	
Toronto, 10	
Bone Waste—	
Rouen, 2 t. 5 c.	£16
Boracic Acid—	
Hio, 2 t. 19 c. 2 q.	£80
Bremen, 1 11	45
Rotterdam, 11 6	353
Naples, 12	20
Melbourne, 8 2 3	208
Borax—	
Montreal, 10 t. 1 c.	£911
Tampico, 11 3 q.	10
N. Orleans, 8	8
Piræus, 2	2
Rotterdam, 41 1	282
Hamburg, 28 6 3	573
Vera Cruz, 1 1 2	22
Toronto, 2 3	43
Genoa, 2 19	59
Melbourne, 30 kgs. 1 1	3
Antwerp, 11	245
Piræus, 5	60
Barcelona, 3 2	62
Calcium—	
Natal, 2 t. 12 c.	£6
Carbolic Acid—	
Cape Town, 1 t. 3 c.	£12
Kobe, 1 15 3 q.	78
Hamburg, 5	275
Santander, 19 3	46
New York, 1 2 1	94
Bombay, 6 11	46
Carbonic Acid Gas—	
Alexandria, 8 cs.	£22
Caustic Potash—	
Boston, 3 t. 19 c.	£80
San Francisco, 4 14	110
Caustic Soda—	
Acapulco, 4 dms. 3 cs.	
Alexandria, 4 cs.	36
Algoa Bay, 3 cks.	
Antwerp, 10	
Aracuja, 10	
Auckland, N.Z., 30	
Baltimore, 200	
Barcelona, 272	
Bombay, 96	
Boston, 100	
B. Ayres, 17	
Calcutta, 4	
Cape Town, 10 bxs.	
Cesra, 5	
Corunna, 20	
E. London, 20 15	
Hamburg, 158 20 kgs.	
Malaga, 118 5 brls.	
Maracaibo, 10	
Melbourne, 20	
Milwaukee, 150	
Montreal, 115	
Naples, 68	
Newport News, 130	
New York, 240	
Penang, 80	
Penedo, 15	
Pernambuco, 145	
Philadelphia, 150	
Pt. Elizabeth, 34 bxs.	
Riga, 244	
Rotterdam, 72	
San Francisco, 120 10	
Samarang, 50	
San Sebastian, 50	
Santander, 50	
Seville, 566	
Sfax, 5	
Sydney, 40	
Tampico, 67	
Tarragona, 20	
Valparaiso, 50	
Valencia, 37	
Chemicals (otherwise undescribed)	
Hamburg, 6 c.	£11
Gothenburg, 5	7
Montreal, 2 t.	68
Santos, 3 18 1 q.	138
Philadelphia, 13	416

Antwerp, 2 7 2	84
Catania, 5	9
Samsoun, 8	14
Naples, 2	73
Constantinople, 8 1	82
St. Petersburg, 2 10	300
Bombay, 9 9	357
Galatz, 9	16
Odessa, 7 16	284
New York, 4 16	160
Calcutta, 6 15	236
Boston, 3 2 2	242
Rotterdam, 1 13 2	57
Genoa, 1 15	25
Venice, 1	34
China Clay—	
Bombay, 310 cks.	
Boston, 365 t.	
Lisbon, 12 10 c.	
Maceio, 3	
Montreal, 177	
Oporto, 10	
Pernambuco, 5	
Philadelphia, 92	
Rio de Janeiro, 72	
Chloride of Lime—	
Santos, 1 c. 2 q.	£13
Citric Acid—	
St. Petersburg, 2 t. 10 c.	£299
Tampico, 3 1 q.	24
Coal Products—	
Aniline Colours	
Boston, 5 cks. 7 kgs.	
Aniline Salts	
Boston, 60 cs.	
Anthracene	
Rotterdam, 11 t. 6 c.	
Naphthaline Colours	
New York, 2 cks.	
Pitch	
Guanta, 175 cks.	
Tar	
Iquitos, 6 brls.	
Trieste, 6	
Tar Salts	
New York, 31 cks.	
Cobalt Oxide—	
Nagasaki, 12 bxs.	£280
Gijon, 1 c. 3 q.	50
Valencia, 1	24
Copperas—	
Santos, 2 t. 2 q.	£4
San Francisco, 29 3 c.	58
Coquimbo, 3 11 6	6
Samsoun, 3 15	6
Copper Sulphate—	
Bilbao, 10 t. 2 c. 3 q.	£160
Vigo, 5	77
Galatz, 1	15
Odessa, 7 3	105
Batoum, 2 19	44
Marseilles, 85 13 3	1,327
St. Nazaire, 5 10 2	85
Calcutta, 12 18 2	202
Bari, 11 5	181
M. Video, 1 1	13
Amsterdam, 1 8 3	17
Lisbon, 4 19	75
Santos, 10	8
Pachuca, 20 2	311
Ancana, 27 4	439
Rouen, 38	589
Naples, 18 9	257
Genoa, 95 1 3	1,275
Bordeaux, 114 1 3	2,016
Venice, 21 11 3	329
Disinfectants—	
Bombay, 10 cks.	£10
Calcutta, 3 cs. 2 t. 15 c.	17
Farina—	
Montreal, 21 cks.	
French Chalk—	
Oporto, 10 bgs.	
Gelatine—	
Boston, 75 bxs.	
N. Orleans, 100	
New York, 100	
Glue—	
Calcutta, 1 ck.	
Kingston, Jam., 1	
Lisbon, 1	
Guano—	
Motril, 69 t.	£690
Iron Oxide—	
Lisbon, 1 t. 1 c.	£7
Lime—	
Pt. Natal, 27 t. 10 c.	£22
Lagos, 8	20
Litharge—	
Santander, 2 cks.	

Magnesia—			Potassium Bichromate—			Rangoon,			Sodium Sulphate—		
Genoa,	1 cs.		Bombay,	2 t.	£90	250	2		Bilbao,	3 brls.	
Tampico,	3		Corunna,	4 c.	8	S. John's, N'd.,	4		Santos,	40	
Magnesium Carbonate—			Pernambuco,	7	10	St. Lucia,	158		Starch—		
Tampico,	2 c.	£3	Potassium Chlorate—			Sapeli,	250		Bombay,	15 cks.	
Magnesium Chloride—			Genoa,	1 t.	10 c.	Shanghai,	6,956		Pernambuco,	154	
Rouen,	9 t.	15 c.	Philadelphia,	5	200	Sierra Leone,	1		St. John's, N'd.,	42 cs.	
Magnesium Citrate—			Gutajewsky,	5	195	Singapore,	2,104	10 brls.	Sulphate of Lime—		
Montreal,	1 cs.	£23	Leghorn,	2	76	Sourabaya,	20		Rio de Janeiro,	31 t.	18 c.
Philadelphia,	28		Bilbao,	1	3	Tampico,	1		Sulphur—		
Magnesium Sulphate—			Gothenburg,	1	44	Teneriffe,	399		Maceio,	11 c.	3 q.
Rio de Janeiro,	6 cs.		Catania,	10	27	Trinidad,	512		Hamburg,	19	3
Santos,	25 brls.		Newfairwater,	5	200	Valparaiso,	22		Philadelphia,	50 t.	8
Manganese—			M. Video,	11	21	Soapstone—			Boston,	300	9
Havre,	10 c.		Yokohama,	1	75	Soda Alkali—			Sulphuric Acid—		
Philadelphia,	3 cks.		Hiogo,	21	5	Baltimore,	70 brls.		St. John's, N'd.,	9 c.	
Manganese Ore—			Shanghai,	4	147	Mauritius,	35		Treacle—		
New York,	6 t.	3 c.	St. Petersburg,	48	1,831	Soda Ash—			Antwerp,	65 hf. pns.	
Manure—			Hamburg,	5 brls.		Adelaide,	178 cks.		Bremerhaven,	1 brl.	
Valencia,	50 t.	11 c.	Salt—			Auckland, N.Z.,	200 bgs.		Christiania,	200	75
Nitrate of Iron—			Accra,	10 t.		Baltimore,	48 brls.		Ghent,	20	
Pernambuco,	1 t.	£12	Antwerp,	435		Barcelona,	33	3,315	Gothenburg,	110	75 cks.
Oxalic Acid—			Baltimore,	300		Boston,	102 tcs.		Havana,	10	
Bombay,	1 t.	7 c.	Bonny,	25		Boston,	141	2,220	Norroping,	100	
Lisbon,	11	21	Boston,	480		B. Ayres,	71		Rotterdam,	75	
Boston,	10	1	B. Ayres,	14	14 c.	Callao,	50 kgs.		Terneuzen,	25	30
Philadelphia,	2	335	Calcutta,	2,910		Canterbury,	34	20 brls.	Turpentine—		
Montreal,	1	140	Charlotte Town,	500		Catania,	30		New York,	30 dms.	
Paint			Christiania,	10		Ceara,	50		Yarnish—		
Algoa Bay,	1 ck.		E. London,	8		Dunedin,	100		Barcelona,	17 cks.	
Antwerp,	1	138 kgs. 1 dm.	Ghent,	160		Ghent,	50		Cape Town,	5 cs.	
Bahia,	50		Gd. Lahou,	1,170	25 bgs.	Gothenburg,	50		Cartagena,	1	
Beyrout,	40		Halifax,	1,170		Lisbon,	40		Havana,	1	
Calcutta,	5	45	Iceland,	250		M. Video,	120	50	Lisbon,	3	2
Caleta Buena,	31		Lagos,	121		Montreal,	5	14 tcs.	Malaga,	4	
Cape Hayti,	2		Landana,	8		N. Orleans,	17	25	Santos,	20	
Champerico,	2		Manaos,	7		Newport News,	17	18	Tampico,	1	
Constantinople,	100	1 brl.	Melbourne,	350		New York,	16	548	White Lead—		
E. London, 8 cs.			Montreal,	1,157		Paysander,	7	1,540	Champerico,	8 cks.	
Ferrol,	3		N. Orleans,	148		Philadelphia,	7	165 tcs.	Zinc Chloride—		
Gibraltar,	8		New York,	25		Piræus,	500	5 brls.	Boston,	17 c.	4 q.
Hamburg,	1	27	Norroping,	50		Rotterdam,	30		Bombay,	3 t.	1
Havana,	2		Old Calabar,	25		Samarang,	47		MANCHESTER		
Hong Kong,	2	49 dms.	Opobo,	75		San Francisco,	47		<i>Week ending July 31st.</i>		
Iquitos,	2		Para,	445	5	Sydney,	464		Alkali—		
Lagos,	1		Pensacola,	500		Talcahuano,	50		Rio de Janeiro,	2 cks.	
Lisbon,	3		Pt. Natal,	120	18	Valparaiso,	150	200	Valparaiso,	190	
Manaos,	22		Rotterdam,	110		Soda Crystals—			Alum—		
Messina,	10	30	S. John's, N.B.	600		Alexandria,	20 brls.		Alexandria,	50 brls.	
New York,	10		St. Petersburg,	900		Bilbao,	9 cks.		Bombay,	154	
Opobo,	10 cs.		Santos,	25 1/2		Bombay,	756	150 bgs.	Aniline Colours—		
Para,	38	25 173	Shediac,	645	18	Calcutta,	20	30 kgs.	Rotterdam,	2 cks.	
Philad'phia,	6		Sierra Leone,	100		Cape Town,	30		Aniline Oil—		
Pimental,	5		Stockholm,	105	15	Constantinople,	50		Rotterdam,	18 dms.	
Saffi,	20		Trinidad,	32	3	M. Video,	67		Boiler Composition—		
St. Thomas,	2		Valparaiso,	201		Montreal,	50		Bombay,	3 cks.	
San Juan,	4	258	Salt Cake—			Philadelphia,	65	50	Bleaching Powder—		
Sierra Leone,	4	12	New York,	4 t.	8 c.	Shanghai,	10	156	Rio de Janeiro,	18 cs.	
Tampico,	20		Baltimore,	100	8	Sourabaya,	100		Carbolic Acid—		
Trieste,	10		Antwerp,	50	2	Sodium Bicarbonate—			Treport,	230 dms.	12 cks.
Trinidad,	50		Gijon,	56	5	Algoa Bay,	20 kgs. 1 ck.	20 bgs.	Caustic Soda—		
Valparaiso,	55	241 20	Philadelphia,	1,071	10	Antwerp,	30	4	Rio de Janeiro,	24 dms.	
Painters' Colours—			Saltpetre—			Auckland,	30	30	Chemicals (otherwise under other)		
Alexandria,	5 cks. 35 tins		Maceio,	19 c.	3 q.	Baltimore,	50	8 brls.	Cairo,	10 cks.	
Bombay,	220 kgs. 24 cs.		E. London,	4	5	Bordeaux,	4	50	Antwerp,	21 kgs. 5 cs.	
Boston,	2		Lisbon,	1 t.	9	Boston,	50	100	Bushire,	2	23
Calcutta,	2	16	Sheep Dip—			B. Ayres,	10		Christiania,	2	23
Cape Town,	5		Rangoon,	11 c.	1 q.	Callao,	10		Chloride of Lime—		
Cartagena,	20		Punta Arenas,	8 t.	10	Constantinople,	30		Rio de Janeiro,	4 cs.	
Genoa,	30 bgs.		Calcutta,	1	13	Genoa,	100		Cottonseed Oil—		
Ghent,	9		Soap—			Gutajewski,	300	20 cks.	Alexandria,	10 brls.	
Gothenburg,	75		Algoa Bay,	930 bxs.	100 cs.	Hamburg,	20		Creosote—		
Guadalajara,	21 cs.		Amsterdam,	500		Havre,	280		Bordeaux,	237 t.	
Hong Kong, 2 brls.			Antwerp,	2,040		Hong Kong,	20		Rotterdam,	30 cks.	
Kingston,	16		Axim,	50		Jaffa,	12		Creosote Salts—		
Leghorn,	34		Bombay,	2,182	50 bds.	Lisbon,	40		Treport,	10 cks.	
Malta,	6		Boston,	9 cks. 3		Malta,	14	15	Glue—		
Manaos,	10		B. Ayres,	1		Marseilles,	30		Rotterdam,	20 cks.	
Melbourne,	47		Calcutta,	67		M. Video,	50		Linseed Oil—		
M. Video,	4		C. C. Castle,	50		Montreal,	100		Alexandria,	20 brls.	
Naples,	20		Cape Town,	1,595		N. Orleans,	450	100	Beyrout,	3	
N. York, 365	194		Casablanca,	1		New York,	100	50 brls.	Soda Alkali—		
Odessa,	65		Colon,	500		Palermo,	13		Sfax,	55 brls.	
Penang,	2		Dominica,	12		Rotterdam,	54		Tar Oil—		
Pernambuco,	30	70	Durban,	100		Seville,	120		Hamburg,	29 dms.	
Piræus,	4 brls.		E. London,	940		Sydney,	387		Rotterdam,	10	
Rio de Jan.,	5	1	Ferrol,	2		Trinidad,	24		Treport,	50 cks. 52 brls.	
Rosstock,	7		Genoa,	200		Tripoli,	10		Whiting—		
Rotterdam,	6		Gibraltar,	226		Vigo,	20		Bombay,	39 cks.	
S. Domingo, 11			Kurrachee,	3		Wellington,	6				
Sourabaya,	100	110 pks. 50 dms.	Lagos,	50		Sodium Chlorate—					
Syra,	2		Las Palmas,	1,200		Hamburg,	24 kgs.				
Valparaiso,	25	15 cs.	Leghorn,	1		Sodium Oxide—					
Vera Cruz,	15 cs.		Lomas,	6		New York,	30 cks.				
Paraffin Wax—			Malta,	25		Sodium Silicate—					
Bari,	20 bgs.		Manaos,	130		Bordeaux,	10 brls.				
Paris White—			Mauritius,	1,000		Vigo,	15				
Gijon,	19 cks.		Melilla,	60							
Phosphorus—			New York,	80	2 362						
M. Video,	5 c.	£35	Odessa,	20							
Potash—			Piræus,	1							
Corunna,	4 c.	2 q.	Pt. Elizabeth,	612	61						
			Pt. Natal,	1,330	20						
			Punta Arenas,	40							

HULL.

Week ending July 27th.

Antimony Sulphate —	
irk, 82 bgs.	
Whiting Powder —	
G, 50 cks.	
O, 75	
U, 15	
Soda —	
erdam, 38 dms.	
gffors, 1 ck.	
2 cs.	
Salts (otherwise undescribed)	
erp, 3 cks. 1 cs.	
hagen, 18	
antionple, 305	
ania, 16	725 lbs.
G, 152 pks.	
nburg, 2	6 pks.
gffors, 1	1 pkge.
urg, 226	
oping, 5 pks.	
York, 50	
rdam, 20	
tersburg, 16	10 pkgs.
opol, 7	
org, 3	
FE, 1	
Seed Oil —	
n, 337 c.	
ania, 82	
iansand, 20	
nburg, 250	
urg, 578	
sberg, 160	
rdam, 472	
uffs (otherwise undescribed)	
ania, 88 cks.	
ork, 27	
ork, 10 dms.	
1 cs.	
59 bgs.	
ed Oil —	
rp, 100 c.	
n, 62	
hagen, 17	
iansund, 18	
ania, 700	
heim, 161	
urg, 251	
ork, 204	
rdam, 137	
ger, 239	
te—	
irk, 21 t.	
rg, 658	
urg, 50 cks.	
erp, 4 cks.	
ers' Colours —	
erdam, 1 ck.	22 dms.
erp, 20	2 cs. 4 pks.
160 kgs.	
n, 1	
n, 16	
en, 1	
nhagen, 3	2 dms.
irk, 2	1 pkge.
ania, 4	
iansand, 29 pks.	
ig, 5	
nburg, 28	1
ngen, 9	1 pkge.
burg, 9	
York, 55	2
rdam, 11	1
1 pkge.	9 dms.
tersburg, 25	
n, 40	226 pks.
holm, 2	16
org, 18	13
horus —	
nburg, 12 cs.	
erp, 183 t.	
n, 40 cks.	
iansund, 10	
a, 100	
erp, 18 pks.	
hagen, 1 cs.	
nburg, 7	
urg, 1	
1	

Starch—

Odessa, 720 cs.

Tallow—

Stockholm, 10 cks.

Wasa, 15

Tar—

Abo, 16 cks.

Amsterdam, 5

Christiania, 5

Helsingfors, 100

Rotterdam, 3

Stettin, 5

Varnish—

Copenhagen, 1 ck. 4 cs. 8 dms.

1 pkge.

Dunkirk, 1

Ghent, 1 bx.

Gothenburg, 1

Hamburg, 1

Rotterdam, 4

Stettin, 12

Stockholm, 1

GLASGOW.

Week ending August 1st.

Ammonium Sulphate—

Bordeaux, 5 t. 2 c.

U.S.A., 36 3

Hamburg, 20 8

Asbestos—

Calcutta, £44

Bleaching Powder—

Melbourne, £150

Borax—

Christiania, £15

Caustic Soda—

Genoa, 5 t. 5 1/2 c.

Canada, 5 5

Coal Products—

Alizarine Oil

Lisbon, £80

Aniline Colours

U.S.A., £103

Aniline Dyes

Calcutta, £22

Anthracene

Rotterdam, 22 t.

Creosote Oil

Copenhagen, 18 t.

Bordeaux, £275

Lisbon, 145

Naphthalene

Bordeaux, £75

Pitch

Canada, 49 t. 17 c.

Gothenburg, £433

Montreal, 49

Nova Scotia, 2 8

U.S.A., 625

Valparaiso, 195

Tar

Canada, £43

U.S.A., 46

Cod Oil—

Adelaide, £75

Melbourne, 93

Dextrine—

Melbourne, £20

Dyestuffs—

Extracts

Philadelphia, £69

Covilha, 20

Lisbon, 61

Canada, 424

Dyestuffs (otherwise undescribed)

Gothenburg, £59

Canada, 26

Gelatine—

Canada, £110

U.S.A., 196

Iron Liquor—

Christiania, £10

Lisbon, 61

Lead Acetate—

Calcutta, £24

Linseed Oil—

Adelaide, 4 t. 19 c.

Alexandria, 3 1/2

Beyrout, 1 5 1/2

Valparaiso, 2

Yokohama, 1 5

Litharge—

Canada, £310

Muriatic Acid—

Bombay, £25

Nitrate of Lead—

Genoa, £75

Paint—

Adelaide, £110

Calcutta, 206

Coronel, 42

Canada, 35

E. London, 29

Beyrout, 94

Painters' Colours—

Calcutta, £1,133. 10s.

Rotterdam, £706

Havana, 100

Paraffin Wax—

Genoa, £321

Antwerp, 29

Hiogo, 105

Potassium Bichromate—

Genoa, 4 t. 2 1/2 c.

U.S.A., 12 1 1/2

Bergen, £40

U.S.A., 1,140

Yokohama, 53

Christiania, 15

Potassium Prussiate—

U.S.A., 9 t.

Rosin Oil—

Rotterdam, £20

Soap—

Lisbon, 2 t. 9 1/4 c.

Bombay, 2 17 1/4

Sodium Bichromate—

Canada, 7 t.

Genoa, 3 3 1/2 c.

Leghorn, £100

U.S.A., 4 13 1/4

Antwerp, 198

U.S.A., 358

Sodium Phosphate—

U.S.A., £52

Starch—

Lisbon, 2 t. 13 c.

Sulphuric Acid—

Cape Town, £26

Superphosphate—

Gothenburg, 50 t. 14 c.

Tallow—

Rotterdam, 7 t. 12 c.

Alexandria, 1

Christiania, 11 1/2

Treacle—

Gothenburg, 14 t. 17 1/2 c.

Christiania, 14 17

Bergen, 2 12

White Lead—

Montreal, £85

TYNE.

Week ending July 27th.

Alkali—

Amsterdam, 33 t. 11 c.

Rotterdam, 4 9

Riga, 55 11

Calmar, 39 18

Gothenburg, 5 14

Bergen, 2 11

Antimony—

Ergasteria, 1 c.

Antwerp, 2 t.

Asbestos—

Pomaron, 1 c.

Barium—

Dunkirk, 10 t.

Rouen, 15 16 c.

Barium Chloride—

Montreal, 1 t.

Barytes—

Hambury, 5 t.

Riga, 5

Blanc Fixe—

Montreal, 5 t. 1 c.

Bleaching Powder—

Antwerp, 13 t. 9 c.

Hamburg, 60 18

Christiania, 41 12

Amsterdam, 38 17

Rotterdam, 7 16

Riga, 46 10

Gothenburg, 8 1

Carbolic Acid—

Ergasteria, 12 c.

Caustic Soda—

Antwerp, 19 t. 15 c.

Hamburg, 72 10

Christiania, 2 18

Amsterdam, 5 4

Venice, 8 14

Gothenburg, 4 18

Colours—

Tromsøe, 3 c.

Fluorspar—

Gothenburg, 10 t. 4 c.

Iron Oxide—

Hamburg, 11 t. 1 c.

Lamp Black—

Montreal, 8 t. 13 c.

Litharge—

Montreal, 15 t. 4 c.

Riga, 13 12

Hamburg, 5 1

Magnesia—

Malta, 16 c.

Hamburg, 14

Manganese—

Malta, 52 t. 17 c.

Bilbao, 50

Oxalic Acid—

Malta, 7

Paint—

Antwerp, 10 c.

Tromsøe, 15

Soda—

Tromsøe, 1 t. 12 c.

Antwerp, 11 17

Hamburg, 7 17

Montreal, 7 10

Christiania, 7 13

Aalborg, 16 12

Amsterdam, 9 17

Rotterdam, 33 10

Aarhus, 5 3

Pomaron, 1 19

PRICES CURRENT.

WEDNESDAY, AUGUST 7TH, 1894

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.B. at maker's works, or at usual ports of shipment in U.K. The price in different localities may

Acids:—		£ s. d.	
Acetic, 25 % and 40 %	per cwt.	6/ & 9/3	
" Glacial	"	40/-	
Arsenic S.G., 2000°	"	0 15 0	
Fluoric	per lb.	0 0 3 1/4	
Muriatic (Tower Salts), 30° Tw.	per bottle	0 0 10	
" (Cylinder), 30° Tw.	"	0 3 0	
Nitric 80° Tw.	per lb.	0 0 1 1/4	
Nitrous	"	0 0 1 1/4	
Oxalic	nett	0 0 3 1/4	
Phosphoric, 1750°	"	0 1 1	
Picric	"	0 0 10	
Sulphuric (fuming 50 %)	per ton	15 10 0	
" (monohydrate)	"	5 10 0	
" (Pyrites, 168°)	"	3 0 0	
" " 150°	"	1 5 0	
" (free from arsenic, 145°)	"	1 6 0	
Sulphurous (solution) S.G. 1025	"	3 0 0	
Tannic (pure)	per lb.	0 1 0	
Tartaric	"	0 0 1 1/4	
Arsenic, white powdered	nett per ton	15 5 0	
Alum (loose lump)	"	4 12 6	
Alumina Sulphate (pure)	"	4 12 6	
Aluminoferrous	"	2 7 6	
Aluminium	per lb.	0 2 10	
Ammonia, Anhydrous	"	0 1 3	
" 880=28° B.	per lb.	0 0 3	
" =24° B.	"	0 0 2 1/4	
" Carbonate	nett	0 0 3 1/4	
" Muriate	per ton	21 10 0	
" (sal-ammoniac) 1st & 2nd	per cwt.	39/- & 37/-	
" Nitrate	per ton	38 10 0	
" Phosphate	per lb.	0 0 7 1/2	
" Sulphate (grey) London	per ton	9 7 6	
" (grey) Hull	"	9 7 6	
Aniline Oil (pure)	per lb.	0 0 5 1/4	
Aniline Salt	"	0 0 4 1/4	
Antimony	per ton	32 0 0	
" (tartar emetic)	per lb.	0 0 7	
" (golden sulphide)	"	0 0 10	
Barium Chloride	per ton	6 7 6	
" Carbonate (native)	"	3 5 0	
" Sulphate (native levigated)	"	42/6 to 65/-	
Bleaching Powder, 35 %	nett	7 0 0	
" Liquor, 7 %	"	3 10 0	
Bisulphide of Carbon	"	13 0 0	
Chromium Acetate (crystal)	per lb.	0 0 6	
Calcium Chloride	per ton	2 2 6	
China Clay (at Runcorn) in bulk	"	15/- to 30/-	
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 %	nett per lb.	0 0 8	
Magenta	"	0 3 9	
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0 1 0 1/2	
Benzol, 90 % nominal	per gallon	0 0 11	
" 50/90	"	0 0 11	
Carbolic Acid (crystallised 40°)	per lb.	0 0 5 1/4	
" (crude 60°)	per gallon	0 1 7	
Creosote (ordinary)	"	0 0 1 1/2	
" (filtered for Lucigen light)	"	0 0 2	
Crude Naphtha 30 % @ 120° C.	"	0 0 5 1/4	
Grease Oils, 22° Tw.	per ton	2 10 0	
Pitch, f.o.b. Liverpool or Garston	"	1 13 0	
Solvent Naphtha, 90 % at 160°	per gallon	0 1 0	
Lucigen " and " Wells Oils	"	0 0 2 1/2	
Copper	per ton	45 15 0	
" Sulphate	"	15 5 0	
" Oxide (copper scales)	"	41 10 0	
Glycerine (crude)	"	16 10 0	
" (distilled S.G. 1250°)	"	42 10 0	
Iodine	nett, per oz.	0 0 9	
Iron Sulphate (copperas)	per ton	1 5 0	
" Sulphide (antimony slag)	"	2 0 0	
Lead (sheet) for cash	"	12 10 0	
" Litharge Flake (ex ship)	"	13 15 0	
" Acetate (white)	"	22 10 0	
" " brown	"	14 10 0	
" Carbonat: (white lead) pure	"	16 0 0	
" Nitrate	"	18 15 0	
Lime, Acetate (brown)	per ton	5 10	
" (grey)	"	8 10	
Magnesium (ribbon and wire)	per oz.	0 1	
" Chloride (ex ship)	per ton	2 1	
" Carbonate	per cwt.	1 17	
" Hydrate	per ton	17 0	
" Sulphate (Epsom Salts)	per ton	3 0	
Manganese, Sulphate	"	17 0	
" Borate	per cwt.	2 15	
" Ore, 70 %	per ton	4 5	
Methylated Spirit, 61° O.P.	per gallon	0 1	
Naphtha (Wood), Solvent	"	0 1	
" " Miscible, 60° O.P.	"	0 1	
Oils:—			
Cotton-seed	per ton	18 10	
Linseed	"	22 10	
Petroleum, American	per gallon	0 0	
Stearine	per ton	24 0	
Phosphorus (yellow)	per lb.	0 2	
" (red)	"	0 2	
Potassium (metal)	per oz.	0 3	
" Bichromate	nett per lb.	0 0	
" Carbonate, 90% (ex ship)	per ton	17 0	
" Chlorate	per lb.	0 0	
" Cyanide, 98%	"	0 1	
" Hydrate (Caustic Potash) 80/85 %	per ton	21 5	
" " (Caustic Potash) 75/80 %	"	19 15	
" " (Caustic Potash) 70/75 %	"	19 10	
" Nitrate (refined)	per cwt.	1 1	
" Permanganate	per cwt.	2 17	
" Prussiate Yellow	per lb.	0 0	
" Sulphate, 90 % (ex ship)	per ton	9 15	
" Muriate, 80 % (do.)	"	8 10	
Silver (metal)	per oz.	0 2	
" Nitrate	"	0 2	
Sodium (metal)	per lb.	0 2	
" Carb. (refined Soda-ash) 48 %	nett per ton	4 15	
" " (Caustic Soda-ash) 48 %	"	3 17	
" " (Carb. Soda-ash) 48 %	"	3 15	
" " (Alkali) 58 %	"	3 7	
" " (Soda Crystals)	"	2 3	
" Acetate (ex-ship)	"	14 0	
" Arseniate, 45 %	"	11 0	
" Chlorate	per lb.	0 0	
" Borate (Borax)	net, per ton	18 10	
" Bichromate	per lb.	0 0	
" Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	"	9 7	
" " (74 % Caustic Soda)	"	8 7	
" " (70 % Caustic Soda)	"	7 10	
" " (60 % Caustic Soda)	"	6 10	
" " (60 % Caustic Soda, cream) (f.o.b.)	"	6 7	
" Bicarbonate	"	6 10	
" Hyposulphite	"	5 10	
" Manganate, 30%	"	10 0	
" Nitrate (95 %) ex-ship Liverpool	per cwt.	0 7	
" Nitrite, 98 %	per ton	29 0	
" Phosphate	"	14 10	
" Silicate (glass)	per ton	4 10	
" (liquid, 100° Tw.)	"	3 10	
" Stannate, 40 %	per cwt.	3 2	
" Sulphate (Salt-cake)	per ton	0 15	
" (Glauber's Salts)	"	1 5	
" Sulphide	"	8 0	
" Sulphite	"	5 5	
Strontium Hydrate, 100%	"	8 10	
Sulphocyanide Ammonium, 95 %	per lb.	0 0	
" Barium, 95 %	"	0 0	
" Potassium	"	0 0	
Sulphur (Flowers)	per ton	6 5	
" (Roll Brimstone)	"	5 0	
" Brimstone: Best Quality	"	3 12	
Superphosphate of Lime (26 %)	"	2 7	
Tallow	"	22 10	
Tin Crystals	per lb.	0 0	
" English Ingots	per ton	69 0	
Zinc (Spelter)	"	15 5	
" Chloride (solution, 100° Tw.)	"	5 7	

THE CHEMICAL TRADE JOURNAL

AND
OIL, PAINT and COLOUR REVIEW.

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130.

SATURDAY, AUGUST 17, 1895.

Vol. XVII.

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Notices.

Communications for the *Chemical Trade Journal* should be sent by Cheques and Post Office Orders made payable to—

BROS., 32, Blackfriars Street, MANCHESTER.

Our Registered Telegraphic Address is—

"Expert, Manchester."

Orders of Subscription, commencing at any date, to the *Trade Journal*,—payable in advance,—including postage by the world, are as follows:—

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Contributors are invited to forward items of intelligence, or cuttings from newspapers, of interest to the trades concerned.

Communications for the Editor, if intended for insertion in the *Journal*, should reach the office not later than **Tuesday** evening.

Reports, and correspondence on all matters of interest to the chemical and allied industries, home and foreign, are solicited. Contributors should condense their matter as much as possible, to one side only of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be sent on separate sheets.

Advertisements.

Advertisements of Situations Vacant, Premises on Sale or To be Let, Wants, and Specific Articles for Sale by Private Contract are charged in the *Chemical Trade Journal* at the following rates:—

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Advertisements intended for insertion in the current week's issue of the *Journal* should reach the office by **Thursday morning** at the latest.

CURRENT TOPICS.

CHEMICALS IN SEWERS.

It is well known to manufacturers that one of the chief reasons why the rivers of Lancashire are so polluted is because corporate bodies will not have the effluents from chemical, and similar works, turned into the sewers.

There are sound reasons, no doubt, why corporations should object to their sewers being made receptacles for all classes of manufacturing refuse, and so long as all effluents are refused, the manufacturer can only make the best of a bad job. When, however, "one is taken and the other left," so to speak, we think chemical manufacturers have a right to put in a claim on their own behalf.

Complaint has been made lately about the sulphate of lime sludge from mineral-water works being turned into the sewers. This sulphate is in a sense innocuous, but it is a very dense body, and is liable to settle quickly, forming awkward deposits which might reasonably be expected to ultimately lead to trouble.

It would appear that this practice is one of long standing, under which circumstances the knowledge of its existence is rendered additionally irritating to the unfortunate chemical manufacturer. On the plea that the sewage alone is quite as much as corporate bodies can deal with (more sometimes), manufacturers have been forbidden to pass their effluents into the sewers; and now it turns out that an exception has been made in the case of mineral water manufacturers. If inadvertence is to be pleaded, by way of exculpation, we think it affords a very poor excuse. The addition of chemicals which tend to purify the sewage, and in many cases are expressly bought and utilised for this purpose, is forbidden, while the introduction of a lot of useless and undesirable solid matter in suspension, which at the best can only swell the volume of the sludge to be disposed of at the sewage works, is uncomplainingly permitted. The two cases are strangely incompatible. Further, it was on the secondary supposition that the admission of chemical effluents would be detrimental to the sewers that they were refused, and yet the authorities, who profess such a deep-seated anxiety for the welfare of the sewers, are not able to foresee the dangers which attend the carriage of sulphate of lime sludge. The possibilities of corrosion by chemical effluents are small, while the probabilities of choking with sulphate sludge are manifest. Corrosive fluids once diluted are thenceforth harmless. A thick slurry churned up in a quick current is always liable to settle out again into a sludge, and finally a deposit, at the earliest opportunity.

THE COAL TRADE.

The trend of circumstances in this industry has not been encouraging for some time. Several things have militated against its welfare, and the result has naturally been felt alike

by employers and employed. The recent contracting period has unfortunately brought very little relief, and in some cases has actually aggravated affairs. The unsettled state of the men is evinced by the many disputes that keep occurring in the chief mining districts. With the present prospects of reviving trade, however, the industries which depend largely upon coal for economical working are naturally very anxious that everything, as far as is possible, shall be done to avoid strikes. We think the attitude at the moment is, on the whole, reassuring. There are many, of course, among the men, who are content with nothing short of changing places with their employers and playing the master. But they do not form a majority. These discontents were outvoted in even the bare proposal to take a ballot of the country upon the abolition of the Conciliation Board. As a further instance of our belief that the majority are more disposed to arbitration than strikes, the success which has recently attended arbitration at Tyldesley has led to the consideration of a scheme for a special County Conciliation Board, to deal expressly with local disputes. The proposal is one which we trust will not be allowed to fall through without having been given a further trial, for at present it has every precedent in its favour, as well as being sound in principle.

NITRATION.*

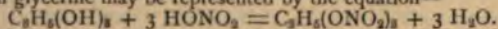
By J. T. HEWITT, D.Sc.

IT would have perhaps saved some trouble, if instead of calling my paper by the title I chose, I had taken some other name for it, as, for instance, "Some Nitro-Compounds." However, the term "nitration" seemed perhaps most suitable, as what I want to treat of is especially

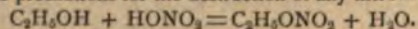
HOW NITRO-COMPOUNDS ARE PREPARED,

not their properties, though incidentally I must refer to them.

By the term nitro-compound, we usually mean an organic substance containing the group NO_2 directly united to carbon, as for example in nitro-methane CH_3NO_2 or nitro-benzene $\text{C}_6\text{H}_5\text{NO}_2$; the prefix nitro is, however, added to the names glycerine, cellulose, &c., to furnish new names for the substances produced by the action of nitric acid on the latter substances. These compounds are not nitro-compounds, they are nitrates, the hydrogen which has been exchanged for a nitro-group being the hydrogen of a hydroxyl, not hydrogen directly attached to carbon. Thus the action of a mixture of strong nitric and sulphuric acids on glycerine may be represented by the equation—



In a similar manner we can get ethyl nitrate from ethyl alcohol if we take suitable precautions for the destruction of any nitrous acid found—

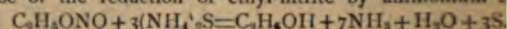


If, however, we take a substance of the aromatic series, even if it contain a hydroxyl group so that we might expect a nitrate perhaps to be formed, we find that the reaction takes another course, a hydrogen attached to carbon being eliminated, not the hydrogen atom of the hydroxyl. In fact by the action of dilute nitric acid on phenol we obtain a mixture of two isomeric substances known as ortho and para-nitrophenols; $\text{C}_6\text{H}_4 \begin{smallmatrix} \text{OH} \\ \text{NO}_2 \end{smallmatrix}$. Not only will nitric acid act on phenol giving nitro-derivatives, but we may act on the parent substance benzene itself, and get nitro-benzene $\text{C}_6\text{H}_5\text{NO}_2$.

This behaviour of nitric acid with hydrocarbons was considered for some time to be peculiar to the aromatic series. Benzene, naphthalene, &c., give nitro derivatives with ease; the paraffins as a general rule give none. Examples of this sort of action have, however, been discovered in the case of compounds which cannot be described as aromatic, and I will refer to those here. In 1891 Kanvaloff found that if nononaphthalene (Hexhydropseudocumene $\text{C}_{10}\text{H}_{16}(\text{CH}_3)_2$ 1:2:4) is heated with nitric acid of s.g. 1.155—1.033 in a sealed tube to 110° to 150° (according to the concentration of the acid), nitration takes place and a compound $\text{C}_{10}\text{H}_{15}\text{NO}_2$ is produced, this is reduced by zinc dust and acetic acid to an amine $\text{C}_{10}\text{H}_{17}\text{NH}_2$ and a ketone $\text{C}_{10}\text{H}_{16}\text{CO}$. This result induced Kanvaloff to try the nitration of hydrocarbons of the marsh gas series by heating with dilute nitric acid, and from n-hexane and nitric acid of s.g. 1.075 he obtained 30% of the theoretical yield of pure secondary nitro hexane: $\text{CH}_3\text{CH}(\text{NO}_2)\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$. Reduced by zinc dust and acetic acid in alcoholic solution, methyl-butyl ketone and hexylamine were formed, and analogous results were obtained in the case of octane.

The nitro-compounds of the fatty series are, however, generally produced by the action of silver nitrite on the alcoholic iodides. If such

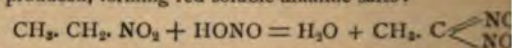
an iodide be treated, however, with potassium nitrite, the alcoholic nitrite is obtained, whilst the nitro compounds of the radicals yield a base on reduction (as ethylamine from nitro-ethyl iodide). The isomeric nitrites give instead the corresponding alcohol as in the case of the reduction of ethyl-nitrite by ammonium



As an example of the preparation of a fatty nitro compound take the case of nitro-ethane which was worked out in 1872 by Victor Meyer and Stüber. These chemists digested 2,090 grams of dry silver nitrite with 1,700 grams of ethyl iodide. After some time it was distilled off, that which came over below 100° being kept apart from the nitro-ethane which boils at 113° — 114° (at 737 mm) residue of silver nitrite and silver iodide in the flask was powerfully distilled with the portion boiling below 100° containing on ethyl iodide, by which means a further amount of nitro-ethyl iodide was obtained. The liquid was afterwards purified by digestion with 10 grams of silver nitrite and then fractionated, the final being 340 grams of pure nitro-ethane.

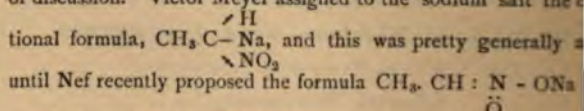
Nitro-ethane is a colourless, strongly refracting liquid of $d_{15}^{20} 1.058$ at 13° . The reactions of the compound were investigated by Victor Meyer and led to interesting results.

Nitro-ethane behaves as a weak acid, forming a sodium compound of composition $\text{C}_2\text{H}_5\text{NaNO}_2$; this is soluble in water, and hence nitro-ethane may be dissolved in dilute caustic soda. If such a solution be mixed with sodium nitrite solution and acidified, nitrous acid is produced, forming red soluble alkaline salts:

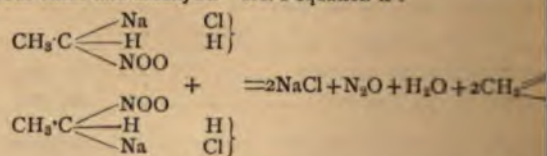


It is noteworthy that nitro substances from secondary and tertiary iodides behave differently with nitrous acid, secondary compounds giving a pseudo-nitrol, e.g. $(\text{CH}_3)_2\text{C} \begin{smallmatrix} \text{NO} \\ \text{NO}_2 \end{smallmatrix}$, and tertiary compounds not reacting.

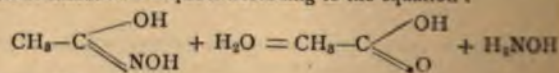
The formation of alkaline salts of nitroethane led to a certain amount of discussion. Victor Meyer assigned to the sodium salt the



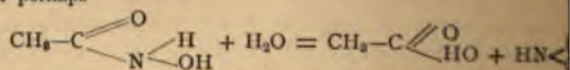
ground that when an alkaline solution of nitro-ethane is acidified the nitro substance is not obtained as such, but decomposes into nitrous oxide and aldehyde. Nef's equation is:



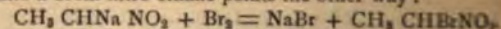
Victor Meyer considers it, however, very improbable that the sodium is bound to the molecule in this way, at any rate one can hardly draw conclusions from such reactions; and he points out that he has found free nitro-ethane decomposes into acetic acid and hydroxylamine on heating with mineral acids, yet it is hardly fair to ascribe to nitro-ethane the constitution it requires according to the equation:



or perhaps



Moreover, he considers that the easy conversion of sodium nitro-ethane into a brom-nitro-ethane points the other way:



Having treated of the nitro-derivatives of the fatty series very shortly, I now come to the methods employed in the preparation of the nitro-aromatic compounds, which from the commercial side are of infinitely greater importance. In this case the general method is in treatment with nitric acid or a mixture of this acid with sulphuric acid, or in some modification of the process; in any case we have the hydrogen atom of the compound exchanged for an NO_2 group, the nitric acid HONO_2 . Needless to say the modifications of the process are great, according to the substance which is to be nitrated.

After dealing with the aromatic substances I shall probably enter into the consideration of a few compounds which must be classed as aliphatic, but this is necessary, as the NO_2 group is attached to nitrogen, not to carbon, so that the substances produced are of an entirely different type. (To be continued.)

* A paper read before The People's Palace Chemical Society, May, 1895.

INDUSTRIAL CLASSES AT THE YORKSHIRE COLLEGE.

THE DYEING INDUSTRY.

report on the work done in this department during the session 1894-5. Prof. J. J. Hummel states that the general character of the dyeing work has been similar to that pursued in the past, and presents no points of special interest to which reference has not been made in previous reports. It may, however, be of interest to record the fact that during the past session the department has for the first time been graced by the presence of a lady student, named at the instance of the Duchess of Sutherland, president of the Scottish Home Industries Sutherland Association, and whose object was to gain such information as would enable her to introduce improvements in the dyeing of the products manufactured under the auspices of the above-mentioned association. A most noteworthy feature of the session is the large amount of work carried on in the department. Four of the advanced classes have been engaged during a part of their time, along with Mr. Parker, in carrying out some of the investigations, and the marked results they have shown in the several subjects assigned to them is attested by allowing their names to appear as joint authors of papers in which the results are published. It is hoped this recognition of their assistance will stimulate those who are selected to take part in future work to emulate the assiduity displayed by their seniors.

Work has not been without difficulties, chief of which has been the inadequate working space which could be allotted to each student. The laboratory proved to be quite inadequate, and temporary arrangements had to be fixed in the colour-mixing room. It is hoped that the committee will be able to provide suitable accommodation for work on this part of the work under more favourable conditions, and finally, as it will no doubt develop considerably.

As a result of part of the original work done by the students, it is mentioned that a discovery has been made which, it is hoped, will be a benefit on the dyeing trade. In the ordinary mode of dyeing with bichromate of potash two-thirds of the mordant is used in the bath, but by adopting the method referred to in one of the papers, the bath may be entirely exhausted, and the same results in dyeing are obtained by an expenditure of one-third to one-half the bichromate of potash usually employed. The number of students attending the department during the session was, day classes, 46; evening classes, 20.

THE LEATHER INDUSTRIES.

The ordinary lecturing and laboratory work of the department has proceeded without interruption during the session. The combination of former senior and junior day lectures into one long course has effected a district improvement, enabling well-prepared students to attend whole in a single session, and allowing others more time for work on chemical and other classes. It has, however, had the effect of reducing the apparent number of students reported, as a name only appears once on the list instead of forming two entries, and it has also slightly diminished the amount of fees. It is, however, of better preparation on the part of the students, and the possibility of their giving undivided attention to leather work during the year in which they also take their lectures, is offset by the amount of really useful experimental work which has been accomplished during the session. No less than three papers from the department have been printed since the last report, all bearing on the importance to the leather trade, and the material for further work is already in an advanced state.

The January number of the Journal of the Society of Chemical Industry appeared a paper by Dr. J. Gordon Parker, a student of the department, in conjunction with the lecturer (Mr. H. R. Procter), on the determination and numerical expression of colour in tanning. The work which led to this arose from a dispute with an extensive delivery of extract bought under contract that it was to be equal in colour to the sealed sample. Ground of dispute arose, and it was found impossible to recover the full amount involved from the absence of any way of defining colour. The lecturer was consulted on the subject, and he hopes that the simple method devised will prevent the occurrence of such disputes in the future. The method consists in analysing the material and in preparing a solution containing exactly $\frac{1}{2}\%$ of tanning matter, the colour of which in a thin layer is determined in the standards of Lovibond's system, which, being of carefully adjusted coloured glasses, seem to give a complete guarantee of permanence and exactness. As a check on the determination a colour-sample of leather is also prepared by steeping a piece of sheep grain in a small tumbler, beginning with a solution of $\frac{1}{2}\%$ of "tanning matter," increasing at the end of twenty minutes to $\frac{1}{4}\%$, and finally tanning for eighty minutes in a 1% solution.

The leather is then washed for a few minutes in water, pressed as dry as possible between blotting paper in a copying press, stretched by hand and tacked on a board, and partially dried in a dark place. It is then again stretched to ensure a bright even colour, and dried out. Results were found to be regular and concordant when a uniform mode of preparing the pelt was adopted. After many experiments, the following method was found satisfactory:—Limed sheep grains were obtained direct from splitting, and after washing and slicking out, they were steeped for some hours in a solution of 2% boric acid and 1% phenol in water. They were then slicked again to remove traces of lime soap, which has proved one of the most persistent causes of stains and bad colour, and preserved in a fresh quantity of the boro-phenol solution till wanted. Skin can be kept in this way for months without change or injury, and only requires a slight wash in water before use for colour testing. The effect of this solution both as a bath and a preservative is so satisfactory that it seems likely it may find applications outside the laboratory. During the experimental work it was noted as a curious point that small variations in the strength of the liquor made no difference in the colour of the pelt, and even that between pieces tanned out in $\frac{1}{4}\%$ and in 5% solution of tanning matter was only trifling. This greatly simplifies the making of colour tests on sheep grain, as no accurate knowledge of tanning strength is necessary.

Since the publication of this paper Dr. Parker and the lecturer have continued work on these lines, and have obtained results with regard to the leaching of tanning materials which are likely to be of great practical importance. They have confirmed the observation made by Messrs. Jones and Palmer that each tanning matter leaches best at some given temperature, which is often considerably below boiling point. They have also shown that, contrary to common belief, the colour is in many cases not darkened by hot extraction, but that it is sometimes actually paler in proportion to the tanning strength than when extracted cold, and that for a large number of materials, including valonia and mimosa bark, the best temperature is about 50°–60°C. (120°–140° F.). The lecturer cannot speak too highly of the industry and perseverance shown by Dr. Parker in carrying out the necessary tanning and colour determinations, which amounted to some hundreds.

Allusion was made in the last report to the experimental work done on the American chrome-tanning process by Messrs. Heal and Stanley Flitch. During this investigation it was found impossible really to follow the chemical changes which took place, for want of suitable analytical methods for the estimation of free chromic acid in the tanning liquors. This want has now been supplied by the adaptation to the purpose of a process described by McCulloch, which is explained in detail in a paper by Mr. Heal and the lecturer, published in the Journal of the Society of Chemical Industry, 1895, p. 248. The process depends on the formation of blue perchromic acid from free chromic acid by the action of hydrogen peroxide, but for working details the original paper must be consulted. The use of the method enables a considerable saving in chrome to be effected, the American tanners having hitherto run away in their unexhausted liquors about $\frac{1}{3}$ of the total chrome used, from the impossibility of determining the additions necessary to restore them to working order. Mr. Heal has also worked out a second method of determination of chromic acid by titration in presence of a copper salt, which may prove very useful to dyers, though less satisfactory for tanning liquors than the process just mentioned. Mr. Heal has since obtained a situation with a London firm to work the process of chrome tanning.

During the last term several students have experimented with the Martin Dennis single-bath chrome tanning process, and obtained leather equal in quality to that by the two-bath method. The process is patented in America but not in England, and indeed is anticipated by the lapsed patent of Bertram Hunt for tanning with basic salts. The Martin Dennis patent claims the use of a basic solution of chromium chloride, formed by adding soda to a solution of the hydrate in hydrochloric acid, but equally good results have been obtained in the College with liquors prepared quite differently, both from chrome alum and by reducing bichromate solutions. This method seems well worthy of the attention of tanners, as it is decidedly simpler in execution and cheaper in material than the two-solution process. It seems well adapted for the production of patent and enamelled leathers, and may probably also be adapted to the product of a chrome calf kid.

In addition to the appliances provided by the College, the lecturer has recently obtained a copper extraction apparatus to treat 10 lbs. or more of material *in vacuo* or under pressure, and which is also capable of being used as a vacuum pan for concentrating extracts or glues. This has already been employed successfully in both ways, and the laboratory is now in a position to produce tanning extracts from any new material which may be received. This apparatus will be available for use by the students.

The number of students attending the Department has been — Day classes, 8; evening classes, 36.

Our Book Shelf.

TRAITE PRATIQUE DE SAVONNERIE (second edition). By E. Moride. 443 pp. 115 woodcuts. Paris: MM. Baudry et Cie., 1895. 12s. 6d.

This work deals with all the various stages of soap manufacture, dealing chiefly with the Continental methods. At the outset there is a comprehensive review of the oils and fatty matters used in soap making. The alkalis used and the preparation of caustic lyes follow in turn. The various methods of saponification and manufacture are then described, a chapter being devoted to the preparation as practised at Marseilles. Hard, soft, manufacturing, medicinal, and toilet soaps receive attention in due course, a number of recipes and analyses being given. The analysis and adulteration of soaps is dealt with at considerable length. The section on glycerine is, however, not very complete. The descriptions of plant and apparatus are plentiful, and the illustrations as a whole are good. The work, which is nicely got up, constitutes a useful treatise on the manufacture of soap, forming a desirable addition to the literature on the subject, but for a second edition the work might have been brought into closer touch with modern practice. This applies with additional force to the list of patents in connection with soap-making, which covers from 1850 up to 1893. It should not have been difficult to include 1894 in the second edition of a work published this year.

AMMONIA REFRIGERATION. By I. I. Redwood. 146 pp. Illustrated. London: E. and F. N. Spon. 1895.

This is a handy and readable little book giving a brief but helpful *resumé* of the theory and practice of ammonia refrigeration. The first two chapters cover the theory which is essential to the intelligent working of a refrigerating plant. The next two give a description of the plant employed, with hints on its erection. Chapters five, six, and seven deal with the charging and starting of a plant, and the methods of utilising the cold produced. The four remaining chapters have reference to the determination of refrigerating efficiency and similar tests, including a description of the plant and method of preparing anhydrous ammonia from ordinary liquid (26°) ammonia. The book, which can be confidently recommended to all interested in refrigerating plant, also contains a number of special tables of particular service in making calculations as to efficiency and maintenance.

CHEMICAL TECHNOLOGY. By C. E. Groves and W. Thorpe. Vol. ii. Lighting. 398pp., including index. 358 illustrations. London: J. and A. Churchill. 1895. 20s.

The first part of the second volume of this excellent work deals with the manufacture of candles, the remaining two-thirds being devoted to petroleum and lamps.

The section dealing with candles is very interesting, including a description of the raw materials and the rendering of the same, in addition to the particulars connected with the actual making of the candles.

Under petroleum the history of this product is ably set forth, leading up to an account of the methods of well-drilling and refining in all the chief localities where the oil is found. There is also a good account of the Scotch shale-oil industry. All through these descriptions considerable attention is paid to details, particularly in connection with well-drilling, thus affording more explicit information than is usually to be obtained. In sections V. and VI., which deal with oil lamps, a most interesting and exhaustive account, both historical and descriptive, is given of the development of lamps. In their preface the authors state that owing to the use of high or low flash oil being a controversial point the matter has not been touched on, yet in the former of these two sections their contributor has been permitted to reproduce lengthy excerpts from reports which are strongly biased, thus giving currency to statements which have been openly disputed, and which should only appear side by side with the criticisms upon the same, if the neutrality claimed is to be impartially maintained. Special attention is also given to blast lamps of the "Lucigen" and "Wells" type. In these sections the opportunity is embraced of referring to oil gas plant and carburettors. The latter portions deal with special forms of lamps, such as ship's and railway lamps, while miners' safety lamps are treated at considerable length, tracing their progress from the days of the steel mill up to Dr. Clowes' latest improvement in the fire-damp detecting lamp. A very full, and, as far as the reviewer has had occasion to test it, very accurate index adds considerably to the utility of the volume, which is an excellent component of the work the authors have in progress.

ESSAYS OF JEAN REY (1630). 54 pp. Edinburgh: F. W. Clay. 1895. 1s. 6d.

These essays, which form the eleventh of the Alembic Club Reprints, are very interesting and well worthy of perusal. The object

of the essays is to show why lead and tin become heavier by cal in air. By a very circuitous and intricate, as well as occasionally erroneous method of reasoning, the author eventually arrives at truth, thus anticipating in a measure the work of Lavoisier by a century and a half. The essays, however, are also interesting for the quaintness of their language, the pungency of the parallels, and the humorous but practical and telling instances by which the author confutes theories of his opposers. Throughout the essays there is a rustic style which is distinctive, affording a striking contrast to the lucubrations which were characteristic of the philosophical writers of the sixteenth and seventeenth centuries.

HOW TO DISINFECT. 96 pp. London: The Sanitas Co., Ltd. 1895. 3d.

This little pamphlet deals with the various methods of disinfecting with Sanitas Compounds in cases of sickness, particulars of use of these disinfectants for buildings, street watering, out-houses, kennels, furniture, slaughter-houses, greenhouses, live stock, numerous other places and things is described, with recommendations as to the best preparations to be applied for the varied uses detailed.

WALKS IN BELGIUM. By P. LINDLEY. 94 pp., illustrated. London: P. Lindley. 1895. 6d.

This is a handy and well-compiled guide to Belgium and Ardennes. The business and descriptive portions are well arranged, enabling an easy choice to be made of prices and the attractions enjoyed for a given expenditure. Cycling, walking, and driving are described, supplemented with maps. This guide cannot fail much to popularise the districts described, which undoubtedly are of interest with interesting sights and beautiful scenery.

IMPORTS AND EXPORTS FOR JULY.

The Board of Trade returns for last month are decidedly reassuring. The imports nearly all show increased values, oils being one of the few exceptions. The exports also show a generally increased increase in the value of chemicals being £46,658.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE

ARTICLES.	Quantities.	
	1894.	1895.
Margarine	Cwt. 71,019	73,
Copper Ore and Regulus	Tons. 14,803	19,
Pyrites	" 50,119	57,
Tin	Cwt. 48,786	71,
Alkali	" 12,221	11,
Brimstone	" 21,769	24,
Dyes, Coal Tar	£. 61,451	61,
Saltpetre	Cwt. 25,342	16,
Petroleum	Gall. 13,888,220	13,002,
Turpentine	Cwt. 62,191	83,
Guano	Tons. 451	6,
Nitrate of Soda	" 6,506	7,
Paraffin	" 20,835	47,
Rosin	Cwt. 121,512	161,
Tallow and Stearine	" 157,240	172,
Oil Seed Cake	Tons. 23,909	30,
Wood Pulp	" 23,806	25,

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

ARTICLES.	Quantities.	
	1894.	1895.
Alkali	Cwt. 444,000	501,
Cement	Tons. 35,964	40,
Coal and Coke	" 2,911,679	3,362,
Copper, all kinds	Cwt. 67,637	82,
Iron and Steel	Tons. 228,478	280,
Chemical Manures	" 41,929	34,
Oils, seed	" 3,338	3,
Salt	" 67,075	68,

CLOSING OF THE BARROW STEEL WORKS.—The directors of Barrow Steel Company have decided to close their steel works on the 17th inst., owing to bad trade and the difficulty they have with their men on the wages question. After closing the steel works they contemplate selling the iron they smelt, instead of making steel. The crisis is the gravest which has ever arisen in the industrial history of Barrow.

The Patent List.

ist is compiled from Official sources in the Manchester Laboratory, under the immediate supervision of J. Davis and Alfred R. Davis, who report professionally value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Stone, F. Heuber. 14,365. July 29.
Precious Metals. A. Von Siemens. 14,402. July 29.
Treatment Apparatus. J. E. Keirby. 14,413. July 30.
P. N. Brooks. 14,441. July 30.
F. W. Bawden. 14,452. July 30.
For Producing Combustible Gas. H. Howell. 14,460. July 30.
Ammonia, Chlorine, and Hydrochloric Acid from Ammonium de. J. Plummer. 14,504. July 31.
Oils to increase Luminosity and reduce Smoke, etc. R. an. 14,609. August 1.
Kerosine Shale for the Production of Hydrocarbons. C. H. en. 14,617. August 1.
nd Apparatus for Manufacture of Ammonium Carbonate and onate from certain Waste Products. H. R. Lewis. 14,618. 1.
Fat for the Production of Soap and Candles. W. J. A. sh. 14,680. August 2.
ents in Coking Processes. J. Bowing. 14,682. August 2.
ure of Safety Explosive. M. Wagner. 14,775. August 3.

ACTS OF LATEST COMPLETE SPECIFICATIONS.

bstracts are specially prepared for the Chemical Trade Journal RIGHTS of publication are RESERVED. This is the earliest abstracts of Chemical and allied patents accessible to the

r Improved Process for Making Red Oxide of Iron Pigments Hydrated Peroxide of Iron. N. McCulloch, 7, Melrose-street, w. Eng. Pat. 17,113. September 8, 1894.

ed peroxide of iron in presence of excess of water can be completely anhydrous by heating in a closed vessel to a are exceeding 340° F. In practice this effect is utilised in the manner:—A solution of ferric salt is completely precipitated ide with any convenient alkaline oxide, carbonate, or alkaline cepting magnesia). The liquor, containing the precipitated e in suspension, is conveyed into a strong boiler capable of at a pressure of 250 lbs. to the square inch, and is heated a temperature slightly above 340° F. The critical tempera- which the chemically combined water is separated from the iron is ascertained by withdrawing a little of the oxide and physical appearance. After this point has been reached, a tes suffice to complete the dehydration. The contents of the e discharged into a vat, filter-pressed, washed, and sube- dried. It must be noted that the presence of traces of m hydroxide raises the critical temperature for the dehydration n hydroxide, and if present in perceptible quantity, will raise ssary temperature and pressure out of the range of practical

r Improved Method for Oxidising the Protosalts of Iron to its. N. McCulloch, 7, Melrose-street, Glasgow. Eng. Pat. 17,112. iber 8, 1894.

tage is taken, in this patent, of the oxygen carrying powers of ide by its conversion into nitrogen peroxide, which gives up oxygen to the protosalt of iron, becoming reduced to nitric in. The process is carried out in a cylindrical wooden vessel 6 ft. diameter and the same length. It is closed at both ends d with a wooden agitator, the lids being perforated with This vessel is charged with an amount of ferrous solution com- e with the air capacity of the plant, and nitric oxide (or its t in nitrogen peroxide) is added in about the proportion of a third parts to every 100 parts of iron to be oxidised. The is then operated until the dark chocolate colour of the solution into a reddish yellow. The resulting persalt of iron may be in a basic or normal form, according to the proportion of ac- iginal solution. It is claimed that one volume of nitric oxide is the rapid combination of at least 14 volumes of oxygen.

ments in Soap. M. H. Wilson, 169, Canal-street, New York, U.S.A. Pat. 11,411. June 11, 1895.

osite cakes of soap are suggested as a means for advertising or ilar purposes. The cakes are formed of several superposed ibiting various designs or characters, the layers preferably different colours. The cake of soap thus reveals, successively, of different designs as it wears away by use. The cake is y compression, while the layers are fresh and in a compara- it state.

Improvements in Apparatus for Electrolysing Chloride Solutions. E. Hermite, E. J. Paterson and C. F. Cooper, all of Pownal-road, Dalston. London. Eng. Pat. 10,929. June 1, 1895.

This patent constitutes a simplification of Specification No. 6,497, 1894. The anode consists of a plate of glass or other insulating material perforated with holes, through which platinum wires are laced, forming a network on both sides of the plate. The wires are twisted into one strand at the top and secured in a binding post. A rectangular tube of zinc (forming the cathode) constitutes a containing vessel, being fitted with a recess for the reception of the anode, and also an inlet at the bottom and overflow outlet at the top, for the passage of the fluid to be electrolised. The containing vessel may, however, be of earthenware, and fitted with recesses to receive the anode and two zinc plates as the cathode. Five drawings show the apparatus in section, elevation, and plan.

Improvements in Bar Soap. M. Evans, 4, Church-road, Wavertree, Lancr. Eng. Pat. 17,396. September 13, 1894.

The patentee proposes to substitute for the present square or oblong bars of soap, circular, hexagonal, heptagonal and polygonal bars, which when cut vertically into pieces would present these shapes, giving comfort in handling for toilet and other purposes, and avoiding waste by the paring which would otherwise be necessary.

Improvements in or Relating to the Manufacture of Sulphuric Acid. N. P. Pratt, Atlanta, Fulton County, Georgia, U.S.A. Eng. Pat. 4,856. March 7, 1895.

With a view to increasing the efficiency of the chambers, special means are employed for agitating the gases at the front of the chamber, and for returning to the same by means of the circulation thus produced active agents that would otherwise escape. These objects are attained by using the following additions to the ordinary plant:—At the front end of the chamber is a casing in which a fan, capable of withstanding the acid gases, is actuated. As an alternative method a steam injector may be substituted for the fan. At the end of the chamber is a condensing tower packed with acid-resisting material which will permit the passage of gases and liquid. The top of the condenser is connected by pipes to the fan or injector casing, while another pipe coming from about the middle of the side of the chamber, and near to the end, is connected with the bottom of the condenser. By means of a tank and spreader weak sulphuric acid is kept passing down the condenser, escaping from the bottom by a sealed pipe into the chamber pan. Any number of these condensers may be used connected in a suitable manner with one or more chambers. A number of baffling columns may also be placed in the chamber, if desired, to assist the mixing of the gases. In this way the contents of the chamber at the end are exhausted, pass up the condenser, and are forcibly re-introduced into the front of the chamber, effecting an intimate mixture of the active agents, as well as condensing a great portion of the sulphuric acid existing as suspended misty particles in the chamber-atmosphere, and returning the uncondensed portion to the chamber. Six drawings show the general arrangement of the plant in plan and elevation, and also details of the condenser, and fan or injector arrangements.

Improvements in and Apparatus for the Electrolytical Separation of Precious Metals from their Ores or other Materials containing them. J. Y. Johnson, 47, Lincoln's Inn Fields, London (communicated by L. Pelatani, 6, Cité D'Antin, Paris, and F. Clerici, of Milan). Eng. Pat. 11,478. June 12, 1895.

The object is the direct extraction of precious metals. The ground mineral containing the precious metals, suspended in a suitable electrolyte and solvent, or previously treated with a solvent such as cyanide of potash, is electrolysed and the separated metals retained by a mercury cathode. Sodium chloride is added to ensure the continued conductivity of the bath. Continuous agitation is necessary to prevent the suspended matter settling on the mercury cathode situated at the bottom of the decomposing vessel and obstructing the electric current. This agitation is effected by alternating arms fixed on revolving anodes; by circulating the liquor through a centrifugal pump; or by a powerful gaseous current. Four drawings show the application of the various methods. Combinations of the three agencies described above are also specified.

MANUFACTURING CALCIUM CARBIDE.—The Aluminium-Industrie-Aktiengesellschaft, in Neuhausen, Switzerland, have taken up the manufacture of calcium carbide on a commercial scale. They are thoroughly advertising same, and quote it at 6d. per kilo., which equals approximately, 3d. per pound, or 7½d. per lb. for the acetylene contained therein. This does not augur well for the use of acetylene either as an illuminant or an enricher. The price will not be as low as at first anticipated, as the electric current works entirely on resistance, and this makes it a very difficult material to produce.

251103A

THE DECARBONIZATION OF BONE-BLACK.

IN a recent paper on this subject Dr. W. D. Horne describes the following process for reviving waste bone-black that has become spoiled by the accumulation of carbon in the pores of the char. The apparatus employed is that invented by M. Weinrich. Two processes are employed. One process consists of the complete removal of carbon from the bone-black and the artificial introduction of fresh carbon in smaller quantity. The other consists of a uniform partial removal of carbon when that element is excessive. The first is applicable to exhausted char, such as sugar refineries and oil refineries discard. The second is preferable for removing small percentages of carbon from bone-black which has begun to deteriorate through the choking of its pores with carbon, but which has not reached the limit of usefulness. In the first case all of the carbon is burned out by passing the bone-black in a small continuous stream through the inventor's apparatus, a nearly horizontal cylinder of sheet iron, which is heated to a dull red and revolved constantly. The char enters the drum through a central orifice in the head, closing one end, which is slightly higher than the other, and leaves the drum through peripheral openings in the head of the lower end. Within the drum longitudinal projecting ribs serve to expose the bone-black more completely to the hot air in the drum. The air enters at the openings in the lower end of the drum and either wholly or partially oxidizes the carbon in the bone-black; that depending upon the heat of the drum, the volume of air, the amount of bone-black fed into the drum, and speed of turning, &c.

These methods have been investigated and tested by the author, both in the laboratory and on a working scale, in their relations to sugar refining, with eminently satisfactory results, as shown below. Some unfavourable results have, at times, appeared, but they have been due to removable causes, or have been so slight as to be negligible in consideration of the great advantages attained.

LABORATORY TESTS.

A quantity of old bone-black, discarded from a sugar refinery, and containing in the neighbourhood of twenty per cent. of carbon, was heated in the open air until it was burned white. Sufficient low-grade sugar syrup, for its dry substance to be equal to about fifteen per cent. of the weight of the decarbonized char, was diluted with hot water, thoroughly mixed with the burned bone, evaporated to dryness, and the mixture then put into an iron tube, closed at one end, and having only a small vent in the cap at the other end, and heated to a dull red until all the gas was given off. This carbonized bone was then cooled and washed with water, to remove all soluble matter, and dried. It now resembled new char in appearance, but contained only about five per cent. carbon. Three hundred cc. of this char were put into a litre bottle with 350 cc. of a solution of molasses sugar, 33° Bé., and exponent = 89.2, and heated one and a half hours in a water-bath at 175° F., with frequent agitations. New char was washed similarly and dried, and 300 cc. subjected to the same treatment. The solutions were then filtered off, and while both had been greatly lightened in colour, that from the recarbonized char was considerably lighter than that from the new char. The exponent of the former was 93.0; that of the latter 92.4. The char samples were carefully washed and heated in closed tubes, as before, to remove the impurities, and again treated as before. These two samples were submitted to nine successive treatments with very dark sugar solutions, the object being to ascertain whether the artificially carbonized char would stand use as well as ordinary char. It was also found that while both samples deteriorated greatly, owing to the large amount of work which had been put upon them, the treated char was relatively as much better than the other sample, at the end, as it had been at the beginning, so far as colour was concerned. The new char had increased the exponent 0.17 per cent. more than the treated char, in the average of the nine tests, but while the new char had removed 66.6 per cent. of the colour from the average solution the recarbonized char had removed 83.3 per cent.

FACTORY TESTS ON A WORKING SCALE.

A decarbonizing apparatus was built, consisting of a cylindrical drum of three-sixteenth inch wrought iron, nine and a half feet long by thirty inches diameter, with a central longitudinal shaft by which it is turned. The drum has a slight inclination from the horizontal and is provided with internal longitudinal ribs to raise the char a little way on the ascending side as the drum revolves. The whole is enclosed by brick-work and heated by a fire built beneath its lower end. By means of this, either a total or a partial decarbonization of char can be effected, and the amount to be burned off can be regulated to a nicety by proper adjustment.

Bone-black that had been in constant use nearly a year and containing twelve per cent. of carbon was reduced to nine per cent. of carbon and tested in the laboratory against the untreated char by the above-mentioned filtration process. The original solution used had a colour = 200 on an arbitrary scale. The filtrate from the untreated char had a colour = 80; that from the treated char had a colour = 27.

In another test the original solution had a colour of 240.

Filtrate from untreated char.....	110
" " treated char.....	20
" " over-treated char (some white grains)	26

The same samples of char, after draining, were treated again with a slightly less amount of sugar solution.

Filtrate from untreated char, colour = 120	
" " treated char, " = 40	
" " over-treated char, " = 50	

In the two treatments the untreated char removed 52.5 per cent. of the color, the treated char 87.9 per cent., and the over-treated char 84.5 per cent.

It was thought that these tests extending over one and a half or two hours might show a greater difference between the samples than tests extending over a longer period, and so the following experiment was made. Three hundred cc. of each char were heated at 175° F., with 600 cc. Muscovado sugar solution at 27° Bé., giving the following results:—

Original solution had a colour = 210.

	One and a half hours.	Six hours.
Filtrate from house char	50	12
" " new char	40	10
" " treated char	20	7

—showing that the treated char held its own very satisfactorily.

Further, a series of six consecutive treatments of new char, char several months in use, and the same after partial decarbonization was made. Three hundred cc. of each black were heated at 175° F. with 600 cc. Muscovado solution of 27° Bé. for ten hours, being shaken every fifteen minutes. The char was thoroughly washed, and heated in nearly closed tubes after each absorption test. The average colour of the liquor going on was 152.5; that coming off was, house char, 22.8; new char, 16.4; treated char, 16.7. The treated char, although a trifle below the new char in the final average, actually deteriorated less during the tests than either of the others, and thus showed a relative improvement at the end of the experiment.

Many tests have been made on the working scale which have demonstrated the superiority of the decarbonized char over old char, and its equality in many respects to new char.

In the first of these tests a filter of house char containing 12.32 per cent. carbon, and another of decarbonized char containing 10.04 of carbon, had equal quantities of the same liquor run over them for a prolonged period, forty-nine and a fourth hours. The average liquor from the house char had a colour of 25, while that from the treated char had an average colour of only 15; and it was very striking that the difference in colour increased as the test proceeded, the latter part of the liquor from the untreated char averaging 50, while the corresponding portion from the treated char averaged only 25. The house char withdrew 79.88 per cent. of the colour present, while the treated char withdrew 87.69 per cent.

In another set of filtrations on the working scale, in a sugar refinery, a raw sugar solution, colour 120 and 27° Bé., and exponent 90.09, was put, in the regular course of running, through filters of char respectively several months old, new, and decarbonized. The average colour of that from the old char was 23; from new char, 19; from decarbonized char, 18. The exponents scarcely varied, being 92.17, 92.37, and 92.09 respectively.

These are a few of a great many tests both in the laboratory and in the factory made upon char which had been partially decarbonized in a small working model which could not be controlled with the desired nicety. While the average per cent. of carbon in the decarbonized char was 10.4 per cent., or 2.28 per cent. less than in that from which it was prepared, there was a good deal of it which through different causes still contained more than eleven per cent. of carbon, and considerable which had been so over-heated as to be rendered weak as a decolourizer. These two extremes, while giving a favourable-looking average per cent. of carbon, both deteriorate the char for the purposes in hand.

Some improvement having been made in the operation of the decarbonizing drum, which, however, is still far inferior to what the inventor's design calls for, it has been possible to turn out a much more uniform product. The carbon can be reduced to any desired point and kept to within half a per cent. of the requisite figure. Having thus prepared another large quantity of char, sufficient for factory tests, another experiment was made. The carbon this time was reduced 13.03 per cent. to 10.22 per cent., and two filters filled with these grades were run against each other. The liquor entering had a colour of 110. The average of that coming from the untreated char was 110, while that coming from the treated char, all the conditions being carefully kept precisely similar, was only five. From the old char the liquor ran water-white for less than an hour; from the decarbonized char it ran water-white for more than five hours; and at the end of the run the liquor from this filter was only about as dark as that at the middle of the run from the filter of ordinary char.

to the changes in the bone-black itself: after a partialation, microscopic examination shows the decarbonization throughout the grain. Two analyses made to illustrate al changes may be quoted:

	Before decarbonization.	After decarbonization.
bon.....	12.32	8.90
cium carbonate.....	3.32	3.26
.....	0.32	0.21
cium sulphate	0.904	0.877
cium sulphide	0.628	0.494

st noticeable and, in fact, the most desirable changes are on of carbon, with a corresponding opening of the pores and absorbing power; and the reduction of calcium sulphide, ery important for sugar refineries, in view of the deleterious latter substance exercises upon the sugar.

us experiments showed that the calcium carbonate is not d by the mild heat which suffices for oxidizing the carbon, ght decrease indicated above is doubtless due to variations or error of analysis.

tion of the grains of bone-black against each other in s so slight that very little dust is formed. Samples taken to s nearly as possible the same char before and after treat- ed per cents. of dust as follows:

	Before treatment.	After treatment.
er than thirty mesh	12.56	12.64
„ fifty „	0.96	2.20

ne-black becomes specifically lighter in proportion to the t, but this does not show in the determinations of specific obably because of the grains packing more closely after

This indicates a wearing off of some sharp corners of the a quantity of bone-black which, before treatment, had a .0624, and lost 2.81 per cent. of carbon during treatment, r. = 1.0636 afterward.

it be expected, the process of opening the choked pores bone-black slightly more friable, but often the yield of dust more than is given by some new bone-blacks.

t advantages of these inventions, then, are quite apparent. of oil, sugar, or glucose, who uses large quantities of bone- not discard it at a great loss after its pores are choked with l its decolorizing power lost; but he can, by a very simple nsive process, bring it back to its original decolorizing en it will last nearly, if not quite, as long as before. But greater advantage is the possibility of preventing its ever bad condition, by submitting it to the decarbonizing pro- yet the carbon is only slightly above the normal for new hus keeping it always at its maximum efficiency.

eful use of this apparatus it is possible to burn off the organic persisting in bone-black after washing, instead of charring n the ordinary method of revivifying, in kilns with the f air; and it is not at all impossible that the apparatus will, in ure, supersede the present kilns used in all factories employ- antities of bone-black.

THE RIBBLE JOINT COMMITTEE.

meeting of the Ribble Joint Committee was held at the ty Offices, Preston, on Monday, the Right Hon. Sir J. T. chairman) presiding. Before proceeding to the ordinary

airman said he had not been able to attend the meetings mmittee for over six months, but now that he was free e wished to say how much, as chairman of that Joint , he was indebted to them for the careful work they had g the past year, and especially during the past six months. ot avoid referring to what really had been accomplished ere first appointed. He found that they had to deal with thorties and 86 manufacturers. In 1892, of the 38 local ere were 15 without sewerage schemes altogether, and 16 ent schemes. At the present time there was only one scheme—Wigan—and only one with an inefficient scheme. e 17 schemes now in actual progress, whereas in 1892 there ere three. With respect to the proceedings taken, there ere n 1892, 19 in 1893; the orders of court obtained in 1894 and in 1895 two. The decrease in the last years showed ecessity for legal proceedings was not so great as in 1893, e believed that at the present time there were five nding. Taking the case of the manufacturers, he found of the 86 there were 79 without purification schemes and the other seven had inefficient schemes. There efficient schemes in progress; but now there was only acturer without a purification scheme. Thirteen schemes osed to be inefficient, 19 schemes were in actual pro-

gress, and there were 37 efficient schemes, against none in 1892. There were also 16 that were improved but were not thoroughly efficient. In 12 cases consent had been obtained since 1892 to proceed against manufacturers. He wished now to say a word or two with respect to local authorities—to appeal to them to assist the Committee rather than throw obstruction in the way, because he thought they had a public duty to perform, not only to themselves but to other local authorities, in the same watershed and on the same stream. If local authorities merely played with the question and did all they could to show "how not to do it," then, of course, he thought it was the duty of the Committee to take strong and stringent action; but if they found local authorities in earnest, who meant to do what the Committee asked them, he thought they ought to consider such cases with leniency and give them a fair time to carry out their different projects. With respect to the manufacturers in that watershed, he must say that he thought they had risen to a sense of their duty, though there were some who had not carried out their schemes and some who had thrown difficulties in the way. He thought the general body had acted with a sense of public duty. He appealed to the local authorities to show a similar sense of public duty. He threw out these remarks because he knew the Committee had a very disagreeable duty to perform. He thought their unpleasant duty had been performed very efficiently, although they might not have done everything people would have liked them to have done; but they must remember they had not the same power as the Mersey and Irwell Committee, or the Committee of the West Riding of Yorkshire. Considering the powers they had, he thought great progress had been made. He for one did not aim at a very high standard; he did not suppose the waters of their rivers would ever become fit to drink, but he did say they would become very much better than they were; and if they could not make them perfectly pure, they might prevent great pollution in the near future. They saw statements in public prints that manufacturers here were placed under unfair conditions for trade competition by the requirements for the purification of their effluents; but they must remember that in every other country in Europe the laws were quite as stringent, if not more so, than they were in this country. He felt sure that they would by a persistent course, such as they had been pursuing, eventually attain the object they had in view.

BRUNNER, MOND, AND COMPANY'S HALF-YEARLY REPORT.

The half-yearly report of Messrs. Brunner, Mond, and Company, Limited, shows a balance to the credit of profit and loss account on the working of the half-year of £148,762., which, with £89,117. brought forward, makes a total of £237,880. This the directors propose to deal with as follows:—Dividend on preference capital of 7 per cent., £15,225.; dividend on the ordinary capital at 30 per cent., £129,856; amount to be written off patents account, £2,500.; balance to be carried forward, £90,299. It is in contemplation to make a call of £1. per share on the ordinary shares, now £2. 10s. paid, and the directors have resolved to offer for subscription to the registered shareholders 6,000 7 per cent. preference shares of £10. each at a premium of £7 per share, the amount received on account of the premiums to be placed to the credit of the reserve fund.

Trade Notes.

THE DRUG, CHEMICAL, AND ALLIED TRADES EXHIBITION.—Under this title an exhibition will be held at the Royal Agricultural Hall, London, on September 10th to 13th inclusive. It is the intention of the Executive, with the aid of the trades interested, to make it a periodical occurrence, that it may be the means of practically advertising such innovations, new products, and appliances as may from time to time present themselves. It is hoped at the same time to bring together to their mutual advantage the producer, seller, and buyer—objects which are effectively accomplished by other successful and popular trade exhibitions which continue to develop themselves from year to year, enabling buyers to study, criticise, and test, under one roof, the latest achievements in the branches indicated, while affording to producers and supplying-houses generally an opportunity which they would not otherwise enjoy, to meet their present and potential customers under circumstances conducive to extended business. The exhibition is being conducted under conditions that promise to overcome the difficulties that have arisen in the past in regard to the attendance. Special railway rates at less than ordinary excursion fares are being arranged for the benefit of provincial visitors. Those connected with the trade will be admitted free, by special tickets to be obtained from the Manager, 42, Bishopsgate-street, Without, E.C.

PERSONAL.—Mr. William Berry, the well-known blacking manufacturer, of Manchester, who died at Bowdon a few weeks since, has bequeathed £51,000. to Manchester and local charities.

JEVES' SANITARY COMPOUNDS CO., LTD.—The directors of this Company announce the declaration of an interim dividend at the rate of 10 per cent. per annum for the six months ended June 30.

THE RAND GOLD OUTPUT.—The total for July has at last ceased to constitute a record. The decline, as compared with the 200,941 oz. in June, however, is not very serious, the total for last month being 199,453 oz., thus standing well in advance of the May return, which was 194,580 oz.

SULPHUR IN JAPAN.—In the industrial development of Japan sulphur mining is becoming important. In 1868, when Japanese statistics in relation to Customs made a beginning, the exportation of sulphur was only 131 tons; in 1890 this quantity had increased to 21,274 tons. There was a slight drop in 1891 and 1892; but in 1894 no less than 84 sulphur mines were being worked, and 13 of them produced upwards of 100 tons apiece in the course of the year.

FATAL ACCIDENT AT AN IRONWORKS.—While five men were engaged last Saturday, at a height of 80 feet, inside a chimney in course of erection at Cochrane's Middlesbrough Ironworks, a scaffold snapped, and four of them were precipitated to the ground. Two of them, named Pettit and Hudson, both old men, died in a few minutes, and a younger man, named Hall, also expired, while a fourth is not expected to recover. The fifth man, named English, had a miraculous escape, climbing hand over hand up a rope on to the chimney top.

THE "TRUTH" ABOUT OZONE (?).—Some of the remarkable statements which appear in *Truth* are often rendered highly satirical, owing to their giving the lie to the title of the paper. This organ has been enlightening the public about ozone: "A good and easy way to discover the presence of ozone in a place is to wear silver trinkets. If they grow black, as if near hot sulphur springs, you have it in a large proportion." It is quite true that ozone makes silver black, but the fact hardly affords a trustworthy test for the presence of the gas. If we accept the test as such we can prove by personal testimony that there is enough "ozone" at Widnes to supply the world nearly. To the best of our knowledge, however, that town does not enjoy an unparalleled reputation as a health resort.

FINES FOR BLACK SMOKE.—At the Manchester Police Court, on Wednesday, last week, before Messrs. Horsfall and Johnston, the following persons and firms were fined for emitting black smoke from the chimneys of their premises:—Seth Joy, Greave-street, Knott Mill, £5. and costs; Christopher Bradshaw, trading as H. Blacklock and Co., Albert-square, £5. and costs; Manchester Shipping and Packing Co., Ltd., Albert-square, £2. 2s. and costs; Cardwell and Co., Ltd., Junction-street, £2. 2s. and costs. In the case of Ellen Fisher, trading as Fisher and Co., Ashton Old-road, an order of abatement was made. The summonses were issued at the instance of the Manchester Corporation, and Mr. Rooke, superintendent of the Sanitary Department, prosecuted.

WAGES AND HOURS OF LABOUR.—A report signed by Mr. H. Llewellyn Smith, Commissioner for Labour, which has been presented to the Comptroller-General of the Commercial, Labour, and Statistical Departments of the Board of Trade, has just been issued as a Parliamentary paper. It deals with rates of wages and hours of labour in various industries, and recent changes therein. The report is divided into three parts, each occupying a separate volume. The first volume contains a detailed analysis of the changes in wages and hours of labour reported to the Labour Department of the Board of Trade which occurred during 1893, and also some preliminary figures for 1894. The second volume deals with standard piece-rates, and the third with standard time-rates recognised in various industries and districts.

GOLD PRODUCTION.—Jumpers: A cablegram has been received from the head office at Johannesburg, stating the following results for July—Crushed, 11,047 tons; obtained from mill, 4,855 oz.; from concentrates, equal to 530 oz.; from tailings by cyanide, 723 oz.; total, 6,108 oz. Langlaagte Estate: Production for July—Mill, stamps running, 160; ore crushed, 20,780 tons; gold retorted, 7,056 oz. Tailings (cyanide process)—Tons treated, 13,300; gold recovered, 2,834 oz. Concentrates (cyanide process)—Tons treated, 585; gold recovered, 2,131 oz. Total, 12,021 oz. Robinson: Mill, 70 stamps at work; 9,700 tons of ore crushed yielded in smelted gold 9,874 oz.; from concentrates, by chlorination, 1,319 oz.; from tailings, cyanide process, 1,580 oz.; from own ore, 12,773 oz.; from concentrates bought (by chlorination), 2,051 oz.; total, 14,824 oz. New Clewer Estate: From mill, working 24 days, crushed 1,520 tons, yielding 729 oz.; cyanide works treated 1,085 tons, yielding 660 oz.; total yield, 1,389 oz.; total value, £3,484. May Consolidated: The following cable message, dated Johannesburg, 3rd inst., has been received—The yield of gold during July was 3,566 oz. from 10,500 tons crushed; mill running 29 days. Cyanide—11,955 tons, 2,459 oz.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are easy and quiet at 11½d. for either quality, at the country. There is practically no change in the position of acids, 60% crude being quoted 1s. 7d., and 40% crystals. Naphthas are dull, with crude at 5½d., and solvent 1s. and anthracene are unchanged. Pitch is firm at 37s. 6d. and 38s. forward, f.o.b. East Coast.

Sulphate of ammonia is weak, especially in the London and markets. At other points makers have been fairly firm. In £9. 2s. 6d. has been freely offered for forward, but makers disposed to sell ahead at the prices. Nearest quotation London outside makes £9. 5s., Liverpool £9. 5s., Hull £9. 5s., Leith £9. 2s. 6d. to £9. 3s. 9d.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, better: Scotch warra at 45s. 8½d. Middlesbrough 36s. 7½d. cash, and hematite. Copper, steady: Chili bars, G. O. B.'s and G. M. B.'s, £46. 17s. 6d. to £47. 2s. cash, and £47. 5s. to £48. 17s. 6d. three months. Tin, quiet: Straits closed at £63. 17s. 6d. 7s. 6d. cash, and £64. 5s. to £64. 15s. three months; £64. 17s. 6d.; English ingots, £67. 10s. Lead, steady: £10. 17s. 6d.; English, £11. 2s. 6d.; Silesian spelter, £15. 7s. 6d. Nickel, 1s. 1½d. Antimony, £31. 15s. Qu first hands, £7. 5s.; second hands, £7. 3s. 6d. Copper share Cape, 2½ to 2¾; Copiapo, 2½ to 2¾; Libiola, 3½ to 3¾ and Barry, 2¾ to 3¾; Rio Tinto, 18½ to 18¾; Tharsis, 4.

GLASGOW, WEDNESDAY.—Market active, with good Scotch done at 45s. 9½d., 45s. 10d., and 45s. 8½d. cash 46s. 0½d., and 45s. 11d. one month; closing with buyers at cash, sellers ask 45s. 9d. Cleveland closes with buyers at cash, sellers ask 36s. 8d. Cumberland hematite done at 45s. closing with buyers at 45s. 7½d. cash, sellers ask 45s. 8d. brough hematite closes with buyers at 44s. 4½d. cash, 44s. 7½d.

LIVERPOOL OIL AND COLOUR MARK

WEDNESDAY.—OILS.—Palm Oil is much firmer, and sellers are not disposed to offer. There has been but a small business done both for spot and arrive. Olive keeps in fairly good demand without change. Linseed is steady at 22s. 6d. to 23s. per cwt. for Liverpool export casks. Cotton-seed is quiet, with sellers of Liverpool 18s. to 18s. 6d., and American 18s. 6d. per cwt. Castor oil There has been a fairly good business, and holders are firm to 2½d. ex-store for good seconds Calcutta, and 2½d. to lb. for first pressure French; ex-quay, 2d. Tallow steady with business doing. Resin scarce and steady, with a quiet demand of turpentine firm at 21s. per cwt., with a fairly good demand. Gum steady with sellers of American at 6½d. to 8½d., and refined 6d. per gallon.

COLOURS are steady, without alteration in Ochres: Oxfordshire, common, £10., medium, £12., best, £14.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh 90s., seconds, 50s., and common, 18s.; Irish, Devonshire 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. unchanged. Venetian red, £6. to £10. Cobalt: Prepared 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 6d. Oxide of iron: Common, £7.; medium, £10.; fine Zinc oxide, £22. 10s. to £25.

REPORT ON MANURE MATERIAL.

There is more inquiry, and a greater disposition on the buyers to consider purchases for next season, but for the time being business is only brought about by concessions by sellers. Tons for 75/80% Florida Rock is 6½d. per unit, in cargo United Kingdom, but the actual value is probably not over Peace River Rock offers at 6d. per unit, and South Carolina similar grade Algerian at 5½d. per unit. Some business done in River Plate bones, but prices are not firm. Cargoes of handy size are worth about £4. 5s. and those of large size 1s. 3d. per ton less. Crushed bones offer at £4. 2s. 6d. per ton, and Bombay bone meal at per ton, ex quay, autumn shipment. Common grinding selling at £3. 15s. to £3. 17s. 6d. ex quay Liverpool. Nitrate

on spot, at 8s. 1½d. to 8s. 3d. per cwt., according to test. For shipment the value of cargoes of ordinary quality is about ½, and refined 8s. 4½d. per cwt. Due cargoes are quoted per cwt. Home prepared dried blood offers at 8s. 6d. per unit works, without attracting attention.

ISCELLANEOUS CHEMICAL MARKET.

and is fairly good for the heavy chemicals of the alkali trade, being particularly brisk for export. Ammonia alkali 58% still at £2. 17s. 6d. to £3. bags, f.o.r. makers' works, with a tendency for forward delivery. Bicarbonate, of ordinary and "quality," is finding a ready sale at £6. 10s. and £4. 10s. respectively. Saltcake is in a better position, and price is at 15s. to 17s. 6d. per ton on rails. For caustic soda the prices are unchanged, and spot values are as follows:—F.o.b. d., 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 65%, £6. 10s.; 10 ton lots and upwards. Soda crystals quiet and at 35s. to 37s. 6d. bags, makers' works. Chlorate of potash 4½d. per lb., and chlorate of soda, 6½d. per lb. Sulphate of soda as improved in value, and now quoted at £16. 5s. to £16. 10s. sulphur steady at £3. 12s. 6d., for best, and £3. 2s. 6d. for birds, quay Liverpool. Nitrate of soda 7s. 10½d. to 8s. per ton acetate of lime still offered in excess of requirements, at £5. 10s. in the several centres of consumption. White lead quoted at £22. 10s. per ton in quantity c.i.f. All other and acetic acid are still offering at lowest rates. Potash, caustic onate, are still in fairly active demand, and prices are firmly ed. Yellow prussiate of potash 7½d., and no sign of recovery e. Prussiate of soda 6½d. per lb. Cyanide of potassium, to 1s. 6d. per lb. Sulphocyanides offering at low prices. tin salts are dearer. Ammonia salts are steady in price, e being in fair demand. For white powdered arsenic there is ury, both for home and export.

LIVERPOOL MINERAL MARKET.

g the past week our market has shown a decided improvement, rong upward tendency, and there is no doubt that at an early siderably higher prices will rule. Manganese is strong, and ace has been paid for several parcels from the spot, whilst quires have been made for further deliveries, also at increased Ground manganese still continues in good demand at £6. 2s., and £12. 10s. per ton, according to quality. Manganiferous has followed manganese ore, and has improved 6d. to 1s. per xite is in very strong demand for both chemical and aluminium rposes; prices being firm at 20s. per ton for first quality, 16s. 9d. for second quality, and 12s. per ton for third quality, f.o.b., in Chrome ore: Arrivals have fallen off somewhat, but there is demand for prompt and forward delivery at full prices, which at 70s. per ton for 40% ore and 110s. to 115s. per ton for prime

French chalk: Stocks have been reduced somewhat, and continue steady and regular at 70s. to 75s., 85s. to 90s., and 100s per ton for "Angel White" brands. Plumbago continues to h a good demand at £6. to £8. 10s. per ton. Wolfgram and : These articles have improved considerably. Fuller's earth r demand at unaltered prices. Arsenic steady at £16. to 1s. per ton. Umbers and ochres meet with a fair demand at s; prime umber being done at 40s. per ton, J.C. ochres at 65s. per ton, and other qualities in proportion, according to

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

the exception of the sharp advance in sulphate of copper, as elow, there is no outstanding feature in general chemicals, hewise are still idle, and with hardly any indication of change

Sulphate of ammonia has gone one worse, and is now at a lb than for a long time, and with no symptoms, however of any counterbalancing amendment. It has been pretty freely at £9. 2s. 6d. for prompt without tempting buyers much, and lders have even hinted a disposition to take less. Letters of atal customers indicate a belief there that prices have still to wer. Buyers here would close for forward delivery at the low price above quoted, but holders prefer the risks and chances of Paraffins show no change of any moment. Some further oil contracting has been done, but consumers do not show the former years.

prices current are:—Soda crystals, 35s. nett, Tyne; 1, 48/56°, £3. 15s. to £4. 10s. nett, Tyne; white alkali, £4. 10s. to £5. 5s. nett, Tyne; alum in lump, £5. 10s. nett,

Glasgow; caustic soda, white, 74° £9., 70/72° £7. 15s., 60/62° £6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching powder, £6. 5s. to £7., nett, Tyne; saltcake, 15s.; borax, English refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4½d. nett, f.o.b. Glasgow); bichromate of soda, 3¼d. nett, for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); chlorate of potash, 5d. less 5%, Liverpool; nitrate of soda, 8s. to 8s. 4½d.; sulphate of ammonia, £9. to £9. 2s. 6d. prompt, f.o.b. Leith; salammionic, first and second white, £39. and £37. nett, any port; sulphate of copper, £16. 15s., less 5%, Liverpool; paraffin scale, hard, 2½d.; and soft, 1½d. to 2½d. per lb.; paraffin wax 120° semi-refined, 2½d. to 2½d.; paraffin spirit (naphtha), 8d. per gallon; paraffin oil (burning), No. 1 6½d., and crystal 6¼d., at works, for Scotch buyers (English sales about 1d. lower); ditto (lubricating) 86½°, £4. 5s. to £4. 10s.; 88½° £4. 15s. to £5., and 890/895° £5. to £6. Week's sugar imports at Greenock were 5,194 bags cane unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

Business in chemicals continues only slow, though there is rather more inquiry for forward and over 1896. Sulphur firm, £3. 17s. 6d. per ton. 76/77% caustic, £9. 10s. per ton. Soda crystals, £1. 17s. 6d. per ton, gross weight locally.

Bleaching powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton, nett; caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; soda ash, 48%, £3. 15s. per ton, nett; do., 52%, £4. 2s. 6d. per ton, nett; do., 56%, £4. 10s. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 15s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. per ton, nett; do., 1 cwt. kegs, £6. 12s. 6d. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £1. 17s. 6d. per ton, gross weight; do., 2 cwt. bags, £1. 17s. 6d. per ton, nett; chlorate of potash, 5½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

SALT.—South Durham salt is firm at 9s. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—The coal trade is better, and there is a scarcity of some qualities of coals, particularly best steam. Gas coals are also in more demand, the consumption beginning to show a steady increase. Best Northumbrian steam, 9s. to 9s. 3d. per ton; second qualities ditto, 8s. to 8s. 3d. per ton; small steam, 3s. 6d. to 3s. 9d. per ton; gas coals, 6s. 6d. per ton; bunker coals, 6s. 6d. to 7s. 6d. per ton; household coal, 10s. to 11s. per ton; coke, 13s. to 13s. 6d. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The markets all round are stronger, which, in the instance of cotton oil, is owing mainly to short shipments of seed upon July contracts. The imports into Hull, compared with the same time a year ago, up to date are:—Linseed, 329,818 qrs., against 281,785 qrs.; rapeseed, 92,100 qrs., against 66,568 qrs.; cottonseed, 112,588 tons, against 126,493 tons; olive oil, 7,877 casks, against 14,969 casks; rape oil, 5,309 casks, against 4,935 casks; oil cakes, 8,606 tons, against 10,319 tons; tallow, 8,532 cwt., against 16,506 cwt.; bones, 2046 tons, against 4,398 tons; turpentine, 6,529 brls., against 3,970 brls. Linseed oil firm at 21s. per cwt., naked spot; month, 20s. 7d.; September-December, 19s. 7½d.; and January-April, 19s. 3d.; boiled and refined from £1. to £1. 10s. per ton extra. Export for the week, 1,080 cwt. Refined cotton oil steady, at 15s. 10½d. naked spot; August-October offer at 16s. 1½d.; for November-April business done at 16s. 3d. Crude, 14s. 1½d. to 14s. 6d. naked spot. New oil for November-April, 14s. 9d. Export of refined oil for the week, 2,640 cwt. Rape oil from 22s. 9d. per cwt. Tallow continues very low in value, makers preferring holding to selling at present rates, which is about £2. 2s. per ton. Boiled siccative oil from £13. per ton. Spirits of turpentine, 21s. 6d. Olive oil from £31. to £35. Liquid soap from £14. per ton. Wool oil from £13. 10s. per ton.

CAKES.—Linseed cakes: Fresh orders at the advance continue very slow; 95% pure, £6. 7s. 6d.; Russians, £5. 15s. to £5. 17s. 6d. Oil cakes, £5. 7s. 6d. to £5. 10s. Cotton cakes remain very firm; best makes, £4. to £4. 2s. 6d.; seconds, £3. 15s. to £3. 17s. 6d. Rape cakes unchanged.

PAINTS.—Business steady, with prices unchanged. Prices are: White and red leads unchanged; also oxide of zinc. Oxide of iron, dry, from £6. per ton. Venetian red, from £4. Yellow ochre, French, £3. 15s.; Derbyshire, £4. per ton. Black, yellow, yellow ochre, venetian red, blue and oxide of iron paints from £11. per ton. Paint remover, 25s. to 30s. per cwt. Imperial black varnish, £5. 10s. per ton in barrels. Oak varnish from 5s. 6d. per gallon.

New Companies.

British White Lead Co., Ltd.—CAPITAL £60,000., in £1. shares. This Company has been formed to trade as white lead manufacturers, drysalts, oil and colourmen, chemical manufacturers, &c. The subscribers to the memorandum of association are:—W. A. C. Strettell, Mobberley, Surbiton, gentleman; J. Stevens, Rosherville, Kent, clerk; S. B. Heward, 96, Ashley Gardens, S.W., gentleman; O. Hamilton, Undershore, Northfleet, gentleman; F. Willan, Bitterne, Hants, gentleman; J. Webster, Sandown Park, Tunbridge Wells, gentleman; H. O. White, Chapel House, Wargrave, Berks, gentleman.

Consolidated Phosphates Co., Ltd.—CAPITAL £45,000., in shares of £1. each, of which 15,000 are preference. This Company has been formed to manufacture and deal in sulphuric acid, alkalis, salts, artificial manures, &c. The subscribers to the memorandum of association are:—E. A. Medus, 172, Commercial-road, Peckham, clerk; W. Collinson, Hatfield, merchant; W. H. Roderick, 197, Hollydale-road, Peckham, clerk; W. T. Hart, 23, Moorgate-street, E.C., solicitor; J. P. Mullens, 24, Aboyne-road, S.W., manufacturer; L. H. Collinson, Kenley, Surrey, manufacturer; W. L. Malcolmson, 19, Roseleigh Avenue, Highbury Park, manufacturer.

Messrs. S. G. Bailey and Co., Ltd.—CAPITAL £10,000, in £1. shares. This Company has been formed to acquire the business of Messrs. S. G. Bailey and Co., at Stroud, and to trade as paint, varnish, and chemical manufacturers, &c. The subscribers to the memorandum of association are:—H. D. Tomlin, 34, De Vere Gardens, W., gentleman; A. S. Kettlewell, 1, New London-street, E.C., shipowner; Mrs. A. Kettlewell, 27, Queensbury Place, S.W.; Mrs. C. A. Tomlin, Kingsdown, Streatham, S.W.; S. G. Bailey,

Stafford Mills, Stroud, manufacturer; C. E. Tomlin, Kingsdown, Streatham Park, stockjobber; F. H. Tomlin, 34, De Vere Gardens, W., gentleman.

Bell Bros., Ltd.—CAPITAL £825,000., in £10. shares. This Company has been formed to carry on the business of Bell Bros., Ltd. (1873), as iron and steel manufacturers, chemical manufacturers, and lime burners, &c. The subscribers to the memorandum of association are:—Sir L. Bell, Bart., Rounton Grange, Northallerton; H. Bell, Zetland-road, Middlesbrough, ironmaster; C. L. Bell, Zetland-road, Middlesbrough, ironmaster; A. F. Goodman, Lt.-Col., Smeaton Manor, Northallerton; W. Johnson, Zetland-road, Middlesbrough, ironmaster; M. L. Bell, Zetland-road, Middlesbrough, ironmaster; W. L. Johnson, Zetland-road, Middlesbrough, ironmaster.

Pomona Chemical Co., Ltd.—CAPITAL £12,000., in shares of £5. each. This Company has been formed to acquire the business of Hornby and Co., Park Lane Chemical Works, Oldham, and to trade as chemical manufacturers, &c. The subscribers to the memorandum of association are:—W. H. Barrett, 11, Islington Square, Salford, salesman; T. Duffield, 10, Elms-road, Whitefield, salesman; T. W. Rodgers, 5, Rosamond-street East, Manchester, packer; F. Taylor, West Worsley-street, Salford, warehouseman; J. Garstang, Lever-street, Radcliffe, salesman; R. Parnell, 5, South Grove, Manchester, clerk; H. Whittingham, 36, Ark-street, Manchester, warehouseman.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

E. A. PERKINS, W. KEYWORTH and S. LEE, Chester, under the style of Perkins, Keyworth and Co., tallow chandlers and candle manufacturers, so far as regards E. A. Perkins.

W. T. BARKWORTH and R. R. H. LOCKHART ROSS, cement and lime manufacturers, Mitchelldean, under the style of the Forest of Dean Portland Cement Company.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudications.

SMITH, JOHN, Nottingham, oil agent.

HARCOMBE ROBERT ANDERSON, Liverpool, oil and colour dealer.

IMPORTS OF CHEMICAL PRODUCTS

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending August 3rd.

Acetic Acid—

Holland, 112 pkgs. A & M. Zimmermann
" 117 Little & Johnston

Acetone—

Holland, 3 pkgs. T. H. Lee

Alum—

Holland, 31 pkgs. H. Wallace & Co.
" 30 cks. Thames S. T. & L. Co., Ltd.
" 129 R. W. Greeff & Co.

Anthracene—

Holland, 165 pkgs. Burt, Boulton & Co.

Antimony Ore—

Portugal, 50 l J. Bamber

Asbestos—

France, 445 Girard Frs. & Co.
Germany, 30 Craven & Co.
France, 75 Flageolet & Co.
Canada, 400 G. Ward & Sons
N. Russia, 250 Bailey & Leatham

Barium Chloride—

Holland, 9 pkgs. Petri Bros.

Barytes—

Belgium, 73 cks. J. L. Lyon & Co.
" 10 W. Harrison & Co.
Germany, 19 P. Jantzen
" 21 Squire & Calver
" 18 T. Robertson
Holland, 51 Soundy & Sons
Holland, 113 W. Harrison & Co.
" 24 J. Kitchin, Ltd.

Bleaching Soda—

Germany, 35 c. H. Lambert

Caoutchouc—

France, 25 c. H. Johnson & Sons
E. Indies, 134 E. Houshead & Co.

Germany, 12 L. & I. D. Jt. Co.
" 12 C. S. Lovell
Zanzibar, 8 L. & I. D. Jt. Co.
E. Indies, 30 Ralli Bros.
Germany, 2 Craven & Co.
Belgium, 7 pkgs. T. Palmer
Germany, 8 T. H. Lee
" 22 A. & M.
Zimmermann

E. Indies, 90 L. & I. D. Jt. Co.
" 62 Prop. Bull Wf.
Mombasa, 11 L. & I. D. Jt. Co.
E. Indies, 13 Anderson, Weber & Smith
U. States, 59 Chautard & Christensen

Castor Oil—

E. Indies, 150 cks. Ross & Deering
" 117 Cayser, Irvine & Co.
" 50 cks. L. & I. D. Jt. Co.

Caustic Potash—

Belgium, 55 c. Petri Bros.

Caustic Soda—

Holland, 2 cks. J. Barber & Co.

Chemicals (otherwise undescribed)

Germany, 5 pkgs. L. & I. D. Jt. Co.
" 1 Pickford & Co.
France, 205 c. P. Hecker & Co.
Canada, 90 Charles & Fox
" 101 M. D. Co.
Germany, 6 Craven & Co.
" 1 J. Barber & Co.
" 71 T. H. Lee
Germany, 90 A. & M.
Zimmermann
Belgium, 47 J. W. Drysdale & Co.

Chrome Alum—

Holland, 10 pkgs. J. Owen

Copperas—

Germany, 11 A. & M. Zimmermann

Cream of Tartar—

Spain, 17 pkgs. Howards & Sons
Italy, 4 W. C. Bacon & Co.
Holland, 5 Kirkpatrick & Co.
Portugal, 5 B. & F. Wf. Co.
France, 15 W. C. Bacon & Co.
Spain, 10 B. & F. Wf. Co.
Holland, 6 F. C. Devon & Co.
" 12 W. C. Bacon & Co.
France, 5 B. & F. Wf. Co.
" 6 G. Ward & Sons

Dextrine—

Holland, 5 pkgs. H. Lorenz

Dyestuffs—

Argola
Italy, 21 pkgs. Thames S. T. & L. Co., Ltd.
Melbourne, 9 J. McEwan & Co.
Italy, 1,202 B. Jacob & Sons

Gutch

E. Indies, 800 pkgs. J. Swire & Sons
Germany, 66 H. Grey, jun.

Extracts

France, 25 pkgs. Beresford & Co.
Canada, 1 Prop. Hay's Wf.
" 80 A. J. Humphrey
U. States, 42 W. Burton & Sons
Denmark, 30 Bailey & Leatham
U. States, 150 Skilbeck Bros.
France, 243 L. J. Levinstein & Sons
Denmark, 22 Sorensen & Co.
France, 142 B. & F. Wf. Co.

Gambier

E. Indies, 441 pkgs. Paterson & Simons
" 140 Union L. Co.
" 191 S. Barrow & Bros., Ltd.
" 442 Adamson, Gilliland & Co.
" 98 Sollas & Sons
" 1,437 L. & I. D. Jt. Co.
" 639 Beresford & Co.

Indigo

E. Indies, 26 cts. Crysdale & Co.
" 23 E. Bower & Co.
" 39 Park, Macfarlane & Co.
" 22 W. J. Eales & Co.
" 137 L. & I. D. Jt. Co.

Logwood

Jamaica, 15 t. G. T. Benton & Son

Myrabolams

E. Indies, 3,825 pkgs. Hors & Sorensen
" 1,634 F. Claydon & Co.

Saffron

Spain, 1 pkgs. Richardson, Spence & Co.

Sumac

Italy, 100 pkgs. H. Johnson & Son
" 1,350 J. Kitchin, Ltd.

Tanner's Bark

Adelaide, 20 t. Culverwell, Bewle & Co.

Natal

117 Boucher, Mortimer & Co.

N. Zealand

15 Beresford & Co.

Germany

248 Escombe Bros. & Co.
50 Davis & Hill
Deering & Robinson

Turmeric

E. Indies, 97 pkgs. J. P. Ailes & Co.
" 125 L. & I. D. Jt. Co.

Yalonia

A. Turkey, 35 t. McKellar, Carr & Co.

Glucose—

U. States, 100 pkgs. 347 c. J. Keller & Son, Ltd.
" 291 293 c. L. Norman & Co.
" 224 1,240 R. G. Hall & Co.
" 75 820 Fellows, Manton & Co.
" 500 500 G. Clark & Son
" 400 2,338 Othman, Clayton & Co.
France, 150 150 Barrett, Tarrant & Co.

Indigo
E. Indies, 26 cts. Croysdale & Co.
" 23 E. Bowser & Co.
" 39 Park, Macfadyen & Co.
" 22 W. J. Eales & Co.
" 137 L. & I. D. Jt. Co.

Logwood
Jamaica, 15 t. G. T. Benton & Son

Myrabolams
E. Indies, 3,826 pkgs. Hors & Scribner

Saffron
Spain, 1 pkgs. Richardson, Spence & Co.

Sumac
Italy, 100 pkgs. H. Johnson & Son

Tanner's Bark
Adelaide, 20 t. Culverwell, Broul & Co.

Natal
Natal, 117 Bontcher, Mortimer & Co.

N. Zealand
N. Zealand, 15 Beresford & Co.

Germany
Germany, 248 Escombe Bros. & Co.

Turmeric
E. Indies, 97 pkgs. J. P. Alpe & Co.

Valonia
A. Turkey, 35 t. McKellar, Carr & Co.

Glucose—

U. States, 100 pkgs. 347 c. J. Koller & Son, Ltd.

" 291 293 c. L. Noma & Co.

" 224 1,440 R. G. Hall & Co.

" 75 800 Fellows, Morton & Co.

" 500 500 G. Clark & Son

" 400 2,338 Oldenburgh & Co.

France, 150 150 Barthe Tagant & Co.

States, 2,000	2,000	Pearce, Pelly & Co.
" 50	875	T. M. Duche & Sons
" 1,366	7,067	L. Sutro & Co.
" 500	500	Devitt & Hett
" 250	250	A. Boake, Roberts & Co.

£415		
orial Earth—		
gium, £25		Schenker & Co.
many, 12		T. H. Lee

Acetate—		
many, 21 pkgs.		F. Boehm

ce, £90		Union L. Co.
States, 300		R. E. Drummond & Co.

Sesium Sulphate—		
many, 120 pkgs.		Berger, Kahler, & Co.

re—		
bourne, 24 t.		Low, Sons, & Bedford
ce, 2		Fuerst Bros.
ndies, 200		A. Hunter & Co.

yl Alcohol—		
many, 5 dms.		Stein Bros.
" 10		L. & I. D. Jt. Co.

ada, £135		W. M. Smith & Sons
ion, 185		E. Davis & Co.

sses—		
States, 100 cks.		570 c. R. G. Hall & Co.

e—		
land, 317 bls.		T. & W. Farmiloe
" 8 cks.		17 pks. Philipps & Graves

ce, 4		O'Hara & Hoar
ffin Wax—		
States, 356 bls.		Williams, Torrey, & Co.
" 100		H. Hill & Sons
" 2,047		646 pkgs. Anglo-American Oil Co.

phate Rock—		
gium, 195 t.		Lawes Manure Co., Ltd.
nce, 238		A. Hunter & Co.

l—		
many, 24 cks.		Poth, Hille, & Co.
nce, 47		C. S. Lovell
Zealand, 6		De Lissa, Sons, & Co.
Russia, 600		W. F. Malcolm & Co.
" 300		Linck, Moeller, & Co.

ibago—		
States, 356 bls.		J. Thredder Son, & Co.
ion, 195		Doulton & Co.
ah—		
ada, 92 c.		M. D. Co.

asium Carbonate—		
many, 10 c.		Petri Bros.
land, 123		A. J. Luke & Co.

asium Cyanide—		
land, 45 pkgs.		Perkins & Homer

asium Permanganate—		
land, 3 pkgs.		J. Barber & Co.

asium Sulphate—		
gium, 50 pkgs.		Petri Bros.

petre—		
many, 133 cks.		P. Hecker & Co.
" 43		J. Hall & Son
ndies, 615 bgs.		Lucas & Spencer's
land, 85		J. Greig
" 10 cks.		Petri Bros.

many, £250		A. Haacke & Co.
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ce, 5 t.		H. Grey, jun.
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um—		
land, 10 pkgs.		Beresford & Co.

um Carbonate—		
land, 10 cks.		J. Barber & Co.

ch—		
many, 1,000 pkgs.		Horne & Co.
land, 40		J. Barber & Co.
gium, 60		Leach & Co.
" 80		Sawer, Sons, & Co.
" 51		J. Barber & Co.
land, 100		G. Rahn & Co.
" 285		Phillipps & Graves
many, 148		Seaward Bros.
gium, 508		T. H. Lee
" 60		H. Johnson & Sons
many, 127		Phillipps & Graves
gium, 206		F. Claydon & Co.

Stearine—		
France, 21 bgs.		Martin, Harris, & Co.
" 150		H. Hill & Sons
" 142		Beresford & Co.
Belgium, 351		H. Hill & Sons

Sulphur—		
Italy, 50 t.		Soundy & Sons

Talc and Mica—		
E. Indies, £96		F. Claydon & Co.

Tar—		
N. Russia, 2,764 bls.		W. F. Malcombe & Co.
" 1,000		Fellows, Morton, & Co.
" 6,794		Linck, Moeller, & Co.

Tartaric Acid—		
Germany, 12 pkgs.		F. C. Devon & Co.
Holland, 19		B. & F. Wf. Co.
" 6		F. C. Devon & Co.

Turpentine—		
U. States, 58 bls.		Chiesman & Co.
" 106		C. B. Leighton
Savannah, 4,047		Dussek Bros. & Co.
" 4		Nickoll & Knight

Ultramarine—		
Germany, 20 cks.		T. Hamilton
" 24 cs.		Steinhoff, Sons, & Co.
Holland, 20		Thames S. T. & L. Co., Ltd.
" 1		Phillipps & Graves
" 5 pkgs.		Haefner, Hilpert, & Co.
Belgium, 20 cks.		H. Kohnstamm

White Lead—		
Belgium, 20 cks.		Colthurst & Harding
" 8		J. L. Lyon & Co.
Holland, 48 bls.		W. Balchin
Germany, 16		Colthurst & Harding
" 17		Petri Bros.
" 26		M. Ashby, Ltd.

Wood Pulp—		
Germany, 36 pkgs.		L. & I. D. Jt. Co.
" 1,120		E. J. & W. Goldsmith

Canada, 3,156		W. G. Taylor & Co.
Norway, 160		Steinhoff, Sons & Co.
Canada, 40		W. D. Edwards
Sweden, 226		Moreton Cox Bros.
Norway, 350		Thames S. T. & L. Co.
Germany, 39		F. Claydon & Co.
" 1,191		W. E. Bott & Co.
Norway, 1,000		Henderson, Craig & Co.
Sweden, 3,955		

Zinc Chloride—		
Holland, 20 pkgs.		Phillipps & Graves

Zinc Oxide—		
Germany, 4 cks.		H. Lambert
Holland, 100 bls.		M. Ashby, Ltd.
Germany, 50		"
U. States, 100		"

LIVERPOOL.

Week ending August 1st.

Acetate of Lime—		
Rouen, 238 bgs.		R. J. Francis & Co.

Asbestos—		
Rotterdam, 2 bls.		

Barytes—		
Bremen, 99 cks.		H. Tyrer & Co.
Hamburg, 40		"
Rotterdam, 44		"
Antwerp, 50 bgs.		"

Bone Ash—		
Zarate, 240 bgs.		J. Nelson & Sons, Ltd.

Boracic Acid—		
Leghorn, 27 cks.		

Borate of Lime—		
Valparaiso, 560 sks.		
Antofagasta, 1,350 bgs.		

Borax—		
Valparaiso, 640 sks.		
Hamburg, 2 cks.		

Castor Oil—		
Leghorn, 10 cs.		

Chemicals (otherwise undes.)—		
Philadelphia, 72 cks.		
Rotterdam, 1 can 1 cs.		

China Clay—		
Montreal, 2 cks.		Allan Bros. & Co.

Citric Acid—		
Messina, 12 cks.		

Cod Oil—		
St. John's, Nfld., 78 cks.		J. J. Langley
" 120		C. T. Bowring & Co.

Colours—		
Stettin, 42 cks.		

Cream of Tartar—		
Rotterdam, 2 cks.		
Barcelona, 15		

Dextrine—		
Stettin, 100 bgs.		J. Buntin & Co.
" 110		"

Dyestuffs—		
Algarroballa		
Huasco, 167 bgs.		H. Treleaven
" 345		G. D. Vaughan & Co.
" 153		"
Tortoralillo, 967		"
Cutch		
Rangoon, 2,259 bxs.		
Extracts		
New York, 46 bls.		Emil M. Schweich
Philadelphia, 90		300 bxs.
New York, 5		R. Schloesser & Sons
Halifax, N.S., 160 cks.		Boutcher, Bacon & Co.

Gambier		
Singapore, 336 cks.		588 bgs. R. & J. Henderson

Myrabolams		
Bombay, 7,186 bls.		
" 2,650 bgs.		D. Sassoon & Co.
" 660		A. Ewart & Co.

Orchella		
Callao, 2 bls.		J. Meek

Saffron		
Valencia, 4 cs.		

Sumac		
Bordeaux, 50 bls.		
Palermo, 500 bgs.		J. B. Moore & Co.
" 100		750

Turmeric		
Bombay, 400 bgs.		E. D. Sassoon & Co.
" 440		A. Ewart & Co.

Farina—		
Hamburg, 850 bgs.		H. Tyrer & Co.

Glucose—		
New York, 500 bls.		
Bremen, 100 bgs.		
Hamburg, 55 cks.		
Boston, 218		Burlop & Co.

Glue—		
Havre, 26 cks.		Cunard S. S. Co., Ltd.
Stettin, 45. bskts.		Johansen & Dahl
Hamburg, 4		
Rotterdam, 2		5 cs.

Iodine—		
Valparaiso, 22 bls.		A. Gibbs & Sons

Linseed Oil—		
Bombay, 771 bds.		
Boston, 423 bls.		

Manganese—		
Carrizal, Bajo, qty.		

Manure—		
Philadelphia, 18 cs.		167 bgs.

Mineral White—		
Genoa, 20 bgs.		

Ochre—		
Rouen, 70 cks.		R. J. Francis & Co.

Oxalic Acid—		
Rotterdam, 8 cks.		

Paint—		
Boston, 30 cs.		

Paraffin Scale—		
New York, 1,274 bls.		Thompson & Bedford
Rangoon, 1,163 bxs.		
Philadelphia, 400		

Phosphate—		
Ghent, 300 t.		1,000 bgs. P. Iredale & Porter

Phosphate Rock—		
Charlotte Harbour, 2,261 t.		

Phosphoric Acid—		
Bremen, 12 cks.		

Potash—		
Hamburg, 20 cks.		

Pumice Stone—		
Messina, 6 bls.		20 bgs. 42 cs.

Pyrites—		
Huelva, 3,640 t.		Matheson & Co.

Rosin—		
New York, 755 bls.		
Boston, 427		
Brunswick, 5,392		

Salammoniac—		
Philadelphia, 1 bbl.		21 cks.

Salicylic Acid—		
Hamburg, 6 cs.		

Saltpetre—		
Karachi, 196 bgs.		
Hamburg, 2 cks.		20 kgs.

Soap—		
New York, 1 cs.		Wm. Cuthbertson
" 300		
Boston, 8		W. Pigott
Rotterdam, 5		

Soapstone—		
Philadelphia, 100 bgs.		
Bordeaux, 100		

Starch—		
Hamburg, 250 cs.		
Rotterdam, 208		J. T. Fletcher & Co.
Antwerp, 120		

Stearine—		
Antwerp, 4 cks.		1 bg. J. T. Fletcher & Co.

Sulphur—		
Catania, 100 t.		83 bls. 625 bgs.

Sulphur Ore—		
Huelva, 1,496 t.		Matheson & Co.

Tallow—		
Zarate, 423 pps.		13 bls. J. Nelson & Sons, Ltd.

Tartar—		
Bordeaux, 14 cks.		

Tartaric Acid—		
Rotterdam, 4 cks.		
Messina, 16		

Treacle—		
Philadelphia, 2,235 bls.		
New York, 335		
Constantinople, 1 cs.		D. Caprillan Brown, & Co.
Stettin, 229 cks.		

Turpentine—		
Brunswick, 844 bls.		

Ultramarine—		
Rotterdam, 1 ck.		

Waste Salt—		
Hamburg, 1,005 bgs.		
" 100 t.		576 cks. H. Tyrer & Co.

Wood Pulp—		
Montreal, 2,200 bds.		A. Rice &

Cryolite — Antwerp, 8 cks.	
Dyestuffs — Extracts Rotterdam, 5 kgs 30 cks Treport, 11 cks.	Arnati & Harrison
Logwood Yucatan, 400 t.	
Farina — Rotterdam, 500 bgs. Hamburg, 197	
Glue — Rouen, 40 cs. 25 cks. 17 bls. Rotterdam, 6 " 100 bgs. Hamburg, 18 bskts. 11 " 5 Treport, 44 bls. Arnati & Harrison	
Lead Acetate — Rouen, 16 cks.	
Limestone — Antwerp, 1 crt.	
Magnesium Sulphate — Hamburg, 500 bgs	
Manganese — Rotterdam, 2 cks.	
Minium — Rotterdam, 7 cks.	
Oxalic Acid — Rotterdam, 30 cks.	
Potash — Antwerp, 40 dms.	
Saltpetre — Hamburg, 11 cks.	
Sodium Nitrate — Rotterdam, 24 cks.	
Starch — Hamburg, 128 cs. 5 bgs. Ghent, 20 Antwerp, 80	
Tallow — Rouen, 215 bgs.	
Tar Oil — Antwerp, 26 cks.	
Tartaric Acid — Rotterdam, 41 cks.	
Waste Salt — Hamburg, qty.	
Wood Pulp — Rotterdam, 51 bls. Halifax, N.S., 8,223 bds. Helsingfors, 568 Felber, Jucker, & Co.	
Kotka, 3,050 bds. Uleaborg, 522 cb. fthms. " Kellner (thru barrow) Partington W. P. Co. Skien, 60 bls. Drontheim, 12,600	
Wood Spirit — Hamburg, 8 dms.	
Zinc Oxide — Antwerp, 30 bls. Rotterdam, 20	

HULL.*Week ending August 3rd.*

Acetic Acid — Rotterdam, 20 bins. Hutchinson & Son	
Acid — Leghorn, 18 cks. Rotterdam, 2 " 20 pkgs. W. & C. L. Ringrose	
Alum — Rotterdam, 37 cks. W. & C. L. Ringrose	
Ammonium Acetate — Rotterdam, 3 bls. W. & C. L. Ringrose	
Arsenic — Hamburg, 50 cks.	
Barytes — Rotterdam, 12 cks. Hutchinson & Son	
Bremen, 22 Veltmann & Co. Antwerp, 148 H. F. Pudsey	
Castor Oil — Genoa, 20 cs. Wilson, Sons, & Co., Ltd.	
Leghorn, 8 Antwerp, 6 bls. Bailey & Leatham	
Chemicals (otherwise undescribed) Rotterdam, 1 ck. Hutchinson & Son	
Hamburg, 5 pks 1 cs. Wilson, Sons, & Co., Ltd.	
Stettin, 28 bls. 17 cks. "	

Bremen, 1 Veltmann & Co. Marseilles, 5 Wilson, Sons, & Co., Ltd.	
Dunkirk, 70 dms. Antwerp, 35 pks. "	
God Oil — Aalesund, 260 brls. 13 cks. Wilson, Sons, & Co., Ltd.	
Hamburg, 54 Bergen, 55 "	
Colours — Amsterdam, 1 ck. W. & C. L. Ringrose	
Rotterdam, 7 cks. Hutchinson & Son	
Ghent, 8 Rotterdam, 5 pks. Wilson, Sons, & Co., Ltd.	
Antwerp, 133 11 bls. " W. & C. L. Ringrose	
Rotterdam, 308 3 cks. W. & C. L. Ringrose	
Antwerp, 1 brl. Bailey & Leatham	
Stettin, 20 cks. Wilson, Sons, & Co., Ltd.	
Creosote — Hamburg, 1 dm.	
Cryolite — Copenhagen, 1 ck. Wilson, Sons, & Co., Ltd.	
Dextrine — Stettin, 100 bgs. Wilson, Sons, & Co., Ltd.	
Alexandria, 10 "	
Dyestuffs — Alizarine Rotterdam, 14 cks. 5 bls. W. & C. L. Ringrose	
Sumac Limassol, 773 bgs. valonia Smyrna, 496 bgs. 607 t.	
Farina — Harlingen, 2,125 bgs. Ghent, 176 cs. Wilson, Sons, & Co., Ltd.	
Glucose — New York, 25 bls. Wilson, Sons, & Co., Ltd.	
" 200	
Glue — Hamburg, 50 bgs. Stettin, 20 " 22 cks. Wilson, Sons, & Co., Ltd.	
New York, 3 pks. Veltmann & Co. Bremen, 32 bgs. "	
Rouen, 10 53 cks. Rawson & Robinson	
Guano — Bergen, 555 bgs. Wilson, Sons, & Co., Ltd.	
Kaolin — Amsterdam, 20 cks. J. Good & Sons Rotterdam, 122 bgs. Hutchinson & Son	
Lamp Black — Ghent, 300 cks. Wilson, Sons, & Co., Ltd.	
Lime — New York, 240 bgs. Wilson, Sons, & Co., Ltd.	
Magnesium Chloride — Bremen, 8 cks.	
Manure — Hamburg, 15 bgs. Wilson, Sons, & Co., Ltd.	
Naphthol — Rotterdam, 1 ck. Hutchinson & Son	
Hamburg, 15 cks. Wilson, Sons, & Co., Ltd.	
Ochre — Marseilles, 84 cks. Wilson, Sons, & Co., Ltd.	
" 63 Sissons Bros. & Co.	
Ozokerit — Stettin, 30 cs. Wilson, Sons, & Co., Ltd.	
Paint — Boston, 13 cs. Wilson, Sons, & Co., Ltd.	
New York, 3 Ghent, 1 "	
Pitch — Boston, 9 pks. Wilson, Sons, & Co., Ltd.	
Plumbago — Leghorn, 10 bgs. Wilson, Sons, & Co., Ltd.	

Pumice Stone — Leghorn, 121 cs. 37 pks. Wilson, Sons, & Co., Ltd.	
" 11 Furley & Co.	
Quicksilver — Hamburg, 3 btls. Wilson, Sons, & Co., Ltd.	
Saltpetre — Hamburg, 79 bgs. Wilson, Sons, & Co., Ltd.	
Soap — Naples, 19 cs. Wilson, Sons, & Co., Ltd.	
" 37 Marseilles, 10 1 bx. "	
Starch — Ghent, 120 cs. Wilson, Sons, & Co., Ltd.	
Bremen, 1,837 Veltmann & Co. Antwerp, 92 W. Gilyott & Co.	
" 200 J. R. & A. Mayfield	
Stearine — Antwerp, 13 bgs. Wilson, Sons, & Co., Ltd.	
Tartaric Acid — Rotterdam, 4 cks. Hutchinson & Son	
Treacle — Boston, 75 bls. Wilson, Sons, & Co., Ltd.	
New York, 550 "	
Turpentine — Libau, 53 bls.	
Yarnish — Hamburg, 4 cs. W. R. Todd & Son	
White Lead — Amsterdam, 32 cks. J. Good & Sons Rotterdam, 43 Hutchinson & Son	
" 46 W. & C. L. Ringrose	
Antwerp, 25 Bailey & Leatham	
Wood Pulp — Halmstad, 583 bls. Abo, 50 J. Good & Sons " 47 Furley & Co. Skien, 58 411	
Zinc Oxide — Antwerp, 30 cks. Bailey & Leatham	
Zinc White — Rotterdam, 1 ck.	

GLASGOW.*Week ending August 8th.*

Acetic Acid — Rotterdam, 13 cks. J. Rankine & Son	
Aniline — Rotterdam, 5 cks. 7 cs. J. Rankine & Son	
Hamburg, 1	
Asbestos — Montreal, 1,300 bgs.	
Barium Sulphate — Antwerp, 250 bgs.	
Barytes — Rotterdam, 10 pkgs.	
Boracic Acid — Leghorn, 18 cs.	
Castor Oil — Antwerp, 30 cks.	
Chrome Ore — Salonica, 300 t. Stevenson, Carlile & Co.	
Ourmelia, 1,700 "	
Citric Acid — Messina, 4 cks.	
Dyestuffs — Alizarine Rotterdam, 139 cks. 6 pkgs. J. Rankine & Son	
Extracts Rouen, 20 cks. Genoa, 150 bls. New York, 10	
Logwood Jamaica, 415 t. Mucklow & Co.	
Shumac Palermo, 587 bgs.	
Farina — Hamburg, 50 bgs.	
Fluor Chrome — Rotterdam, 1 cs. J. Rankine & Son	
Glucose — New York, 200 bls.	

Glue — Rouen, 4 cks. 12 bls. New York, 136 bls. Rotterdam, 4 40 bgs. Ran	
Hamburg, 3	
Kelp — Stavanger, 95 t.	
Ochre — Rouen, 3 cks.	
Paint — New York, 2 cs.	
Painters' Colours — Antwerp, 1 ck. Rotterdam, 33 pkgs.	
Hamburg, 1	
Phosphate Rock — Charlotte Harbour, 2,500 t. C	
Potash — Rotterdam, 78 cks.	
Rosin — New York, 550 bls.	
Soap — Philadelphia, 450 bks. 13 cs. New York, 921 bls.	
Starch — Antwerp, 60 cs.	
Stearine — Amsterdam, 153 bgs.	
Sulphur Ore — Huelva, 1,860 t. R	
Tallow — New York, 20 tcs.	
Tartar — Bordeaux, 5 cks.	
Tartaric Acid — Messina, 4 cks.	
Treacle — Philadelphia, 1,500 bls.	
Yarnish — New York, 110 bls.	
Waste Salt — Hamburg, 135 cks.	
White Lead — Rotterdam, 26 cks.	
Wood Pulp — Christiania, 142 bls. " 1,653	
Zinc Oxide — Antwerp, 25 cks.	
Zinc White — Rotterdam, 50 cks.	

TYNE.*Week ending August*

Alum Earth — Hamburg, 90 cks. Tyne	
Barium Chlorate — Rotterdam, 300 bgs. Tyne	
Barytes — Antwerp, 67 bgs. Tyne	
Colours — Rotterdam, 4 cks. Tyne	
Limestone — Antwerp, 2 crts. Tyne	
Phosphate — Antwerp, 300 t.	
Pyrites — Huelva, 5,938 t.	
Saltpetre Salt — Hamburg, 280 t.	
Starch — Rotterdam, 80 cs. Tyne	
Superphosphate — Antwerp, 300 bgs. Tyne	
Wood Pulp — Gothenburg, 120 bls. 21 t. Christiania, 40 Arendal, 60	
Zinc Oxide — Rotterdam, 25 cks. Tyne	
Zinc White — Rotterdam, 100 cks. Tyne	

GOOLE.
Week ending July 31st.

18 cks.	
22	
13 cks.	
11 cks.	
200 bgs.	
12 cks.	
1 cs.	
7 cks. 3 cs.	

Dyestuffs—

Allizarine	
Rotterdam,	29 cks.
Extracts	
Rouen,	44 cks.
Dyestuffs (otherwise undescribed)	
Rotterdam,	23 cks. 29 cns.
Boulogne,	13 60 pkgs.

Farina—

Hamburg,	100 bgs.
Delfsyzhl,	1,050

Potash—

Antwerp,	5 cks.
Dunkirk,	1
Calais,	81 dms.

Saltpetre—

Rotterdam,	7 cks.
Hamburg,	13
Sulphur Ore—	
Seville,	1,295 t.
Waste Salt—	
Hamburg,	400 cks. 500 bgs.

GRIMSBY.

Week ending August 3rd.

Albumen—

Hamburg,	5 cks.
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Barytes—

Antwerp,	62 bgs.
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Chemicals (otherwise undescribed)

Hamburg,	16 cs. 14 pkgs.
Rotterdam,	4

Colours—

Rotterdam,	3 cks.
Antwerp,	3
Hamburg,	36 59 cs. 49 pkgs.

Dyestuffs (otherwise undescribed)

Dieppe,	25 cks.
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Manure—

Rotterdam,	22 cks.
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Plumbago—

Hamburg,	3 cks.
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Saltpetre—

Antwerp,	170 bgs.
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EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.**LONDON.**

Week ending August 7th.

Acid—	
phai,	4 c.
own,	5 t. 18 c.
nous Cake—	
ita,	40 t.
nia—	
ay,	5 cs.
ium Carbonate	
32 cks.	
10 t. 15 c.	
2 16	
ium Chloride—	
1 t. 10 c.	
15 cks.	
ium Sulphate—	
100 t.	
60	
ic—	
2 t. 10 c.	
White of Lime—	
chee,	2 t. 3 c.
ic Acid—	
urne,	7 cks.
urne,	1 t. 10 c.
own,	4 t. 4 c.
1 8	
delphia,	1
icals (otherwise undes.)	
ideo,	46 cs.
delphia,	5 t. 4 c.
1 2	
burg,	7
ay,	19
tion, 30 drs	
irk,	5 16
yres, 12 cks. 2	
urne,	2 5
Acid—	
chi,	1 cs.
els,	1 t. 2 c.
etersburg,	13
ay,	2
Products—	
line Salts	
44 cks.	
thracene	
ingen,	260 cks.
201	
20 puns	
20 dms.	
olic Acid	
Elizabeth,	2 cs.
osote	
ort News,	1,250 brls.
York,	500
phtha	
ide,	5 crts.
ch	
250 brls.	
York,	5,016 bgs. 660 cks.
13 brls.	
York,	409
Products (otherwise undes.)	
urne,	25 drs.
r 8 il, hate	
illes	25 t.
15	
rt	
aux,	87 t. 10 c.

Copperas—

Constantinople,	17 t. 11 c.
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Cream of Tartar—

Brisbane,	1 t.
Wellington,	10 c.

Disinfectants—

Wellington,	153 pkgs.
Penang,	100 drs.
Hamburg,	35 cks.
B. Ayres,	14 cs.

Guan—

Landerneau,	145 t.
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Iron Sulphate—

Rio de Janeiro,	1 t.
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Manure—

Landerneau,	98 t.
Libau,	430 3 c.
Rostock,	325
Treport,	19 18
Kingston,	12

Nitric Acid—

Bombay,	1 t. 10 c.
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Potash—

Treport,	5 t. 8 c.
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Potassium Chlorate—

B. Ayres,	1 t.
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Potassium Cyanide—

Melbourne,	10 cs.
New York,	135
Calcutta,	4 c.

Salt Cake—

Antwerp,	155 t.
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Saltpetre—

Vigo,	3 t. 15 c.
Brisbane,	1

Sheep Dip—

Wellington,	33 drs.
Hobart,	200 50 kgs. 80 cs.
Geelong,	2 t. 14 c.
Natal,	132 drs.
Novorossick,	100 250
B. Ayres,	164 pks. 500 1,665

Soda—

Napier,	5 t.
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Soda Salts—

New York,	1 t. 4 c.
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Sodium Sulphate—

Ghent,	100 t.
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Sodium Sulphite—

Bombay,	10 c.
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Sulphuric Acid—

Rio de Janeiro,	1 t.
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Superphosphate—

Libau,	400 t.
Riga,	708 6 c.

Tartaric Acid—

Kurrachee,	1 t.
Malta,	2 c.
Algoa Bay,	3
St. Petersburg,	3
Wellington,	3
Brisbane,	7

LIVERPOOL.

Week ending August 7th.

Albumen—

Hamburg,	1 t. 5 c.
Boston,	10 2 q.

Alum—

Santos,	1 t. 1 c.
Mogador,	4 14 1 q.
Smyrna,	13 8 3
Sydney,	7 5 3

Alexandretta,

6 5 29	
Oporto,	2 2 1
Bombay,	17 19 3

Alumina Sulphate—

Montreal,	10 t.
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Aluminoferic—

Calcutta,	51 t. 2 c. 3 q.
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Aluminous Cake—

Montreal,	17 t.
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Ammonium Carbonate—

Havre,	2 t. 4 c.
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Ammonium Chloride—

Montreal,	13 c.
Boston,	5 t.
Leghorn,	10
Antwerp,	1 3

Ammonium Sulphate—

Barcelona,	20 t. 7 c.
Messina,	8 4 1 q.
Sourabaya,	400 2
Venice,	9 15 3
Genoa,	30 9
Cartagena, Sp.,	9 10

Arsenic—

Rosario,	10 c.
San Francisco,	1 t. 16 1 q.

Asbestos—

Taltal,	1 cs.
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Bleaching Powder—

Baltimore,	91 cks.
Bilbao,	29
Boston,	394
Genoa,	35
Newport News,	67
New York,	55

Boiler Composition—

Gibraltar,	13 dms.
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Boric Acid—

Rotterdam,	4 c.
Yokohama,	1 t.

Borax—

Antwerp,	18 t. 16 c. 3 q.
Montreal,	2 2 3
Rotterdam,	2 14 1
Stockholm,	5 2 3
Pernambuco,	1 2
Copenhagen,	10 18 2
Hamburg,	10 7
Ghent,	2 13
Petrolia, Ont.,	2 13
Halifax,	2 13
Yokohama,	5 19
Genoa,	1 19
Galatz,	10 9

Calcium Chloride—

Bombay,	2 t. 13 c.
Calcutta,	2 2

Carbolic Acid—

Rio de Janeiro,	1 t. 18 c.
New York,	5 cks.
Petrolia, Ont.,	12
Hamburg,	7 14

Castor Oil—

Addah,	10 cs.
Hamburg,	20
Savannah,	3
Winnabah,	18

Caustic Potash—

Dunedin,	1 t. 1 c.
Wellington,	10
Constantinople,	5

Caustic Soda—

Acajutla,	6 bxs.
Algoa Bay,	8 dms.
Amsterdam,	20 6 brls.

Ancona,

52	
Bahia,	25
Barcelona,	25
Baltimore,	25
Bari,	71
Bilbao,	60
Boston,	125 50
Brisbane,	1 pkge.
B. Ayres,	100
Calcutta,	34
Cartagena, Sp.,	50
Catania,	58
Corunna,	20
Dunedin,	6 pkgs. 28
Dunkirk,	30
Fiume,	50
Galatz,	10
Genoa,	248
Hamburg,	144
Havana,	40
Hong Kong,	4 cks.
Ibrail,	35
La Guayra,	10
Leghorn,	53
Lisbon,	60
Manila,	50
Marseilles,	10
Melbourne,	124
M. Video,	86
Naples,	34
N. Orleans,	60
Newport News,	800
New York,	100
Oporto,	30
Puerto Cabello,	14
Punta Arenas,	14
Quebec,	30
San Francisco,	25
San Sebastian,	50
Santa Catherina,	10
Santos,	50
Savannah,	4 cs.
Seville,	130
Shanghai,	10
Tampico,	317
Valencia,	20
Venice,	100
Vera Cruz,	28
Volo,	8
Wellington,	5

Chemicals (otherwise undescribed)

Philadelphia,	12 t. 16 c.
Bourgas,	8
Syria,	12
Constantinople,	1
Bombay,	4 10
Odessa,	5 166
Barcelona,	3
Rotterdam,	1
Hamburg,	10
Christiania,	10

China Clay—

Bombay,	5 t. 10 cks.
Boston,	430
Montreal,	4

Chloride of Lime—

Halifax,	10 c. 3 q.
Cape Town,	1 t.

Coal Products—

Alizarine Oil	
Montreal,	11 brls.
Aniline	
Lisbon,	1 ck.
Aniline Colours	
Boston,	8 cks. 4 kgs.
Aniline Oil	
Philadelphia,	10 dms.
Aniline Salts	
New York,	10 cks.

Anthracene			Oporto, 155	Messina, 48	Rouen, 50 brls.
Rotterdam, 11 1/2 t.			Pt. Said, 9 dms. 10	Montreal, 14	Salonica, 30
Creosote Oil			Rangoon, 1 cs.	Montserrat, 30	Sydney, 604
Lisbon, 100 brls.			Rotterdam, 100 bgs.	Newport News, 250	Tampico, 100 bgs.
Mirbane Oil			Santos, 11	New York, 750	Trinidad, 20
New York, 1 dm.			Santa Catherina, 111 cs.	Old Calabar, 500	Valencia, 15
Pitch			Syria, 15	Opobo, 250	Vera Cruz, 10
Galatz, 1 1/2 t.			Valparaiso, 1 ck. 5 kgs.	Para, 1	Wellington, 175
Tar			Paraffin Wax—	Philadelphia, 1,000	Sodium Bichromate—
Sierra Leone, 20 brls.			Boston, 100 cs.	Point Levi, 2	Rouen, 60 cks.
Copperas—			Leghorn, 10 bgs.	Pt. Elizabeth, 1,920	Sodium Chlorate—
San Francisco, 6 t. 3 c.			Patras, 16 40	Pt. Natal, 450	Lisbon, 1 kg.
Alexandria, 13 1			Phosphorus—	Rangoon, 300	Sodium Fluorate—
Copper Sulphate—			Shanghai, 1 t. 18 c.	Rotterdam, 581	Stettin, 134 bgs.
Callao, 1 t. 4 c.			Hiogo, 2	St. John's, N.F.J., 85	Sodium Phosphate—
Genoa, 10			Potassium Bichromate—	Samarang, 2	Passages, 2 cks.
Gothenburg, 17 3 q.			Bombay, 4 t. 17 c. 2 q.	Shanghai, 4,002	Santos, 1
Galatz, 11 10			Potassium Chlorate—	Sheroro, 100	Sodium Silicate—
Melbourne, 5			Hiogo, 10 t.	Sierra Leone, 360	Oporto, 19 brls.
Algoa Bay, 9			Lisbon, 2	Singapore, 275	Sodium Sulphate—
M. Video, 1			Yokohama, 2 10 c.	Stockholm, 65	New York, 58 brls.
Bombay, 1			Naples, 1 5	Teneriffe, 384	Stearine—
Bordeaux, 163 15			Rosin Oil—	Trinidad, 300	Montreal, 34 cks.
Nantes, 11 8			Naples, 12 brls.	Valparaiso, 500	Sulphur—
Dried Blood—			Salt—	Volo, 100	Ceara, 10 c.
Hamburg, 1 t. 2 q.			Amsterdam, 100 t.	Warri, 150	E. London, 3 t. 12
Gelatine—			Antwerp, 116 13 c.	Soda Alkali—	Boston, 500 11
Boston, 100 bxs.			Benin, 8	Alicante, 30 cks.	Sulphuric Acid—
New York, 100			Bonny, 10	Barcelona, 32 13 dms.	Madeira, 10 c. 1 q.
Glue—			Boston, 400	Boston, 28	Superphosphates—
Calcutta, 10 tins			B. Ayres, 4 5	Calcutta, 49	Las Palmas, 35 t. 5 c.
La Guayra, 3 cks.			Calcutta, 8,907 3	Genoa, 254 brls	Tartar Salts—
New York, 30 bds. 150 bgs.			C. C. Castle, 12 10	Leghorn, 17	Ceara, 2 c.
Shanghai, 7			Christiania, 73 13	Melbourne, 61 6	Treacle—
Gypsum—			Copenhagen, 339	Napier, 20	Accra, 10 cs.
New York, 36 t. 9 c.			Dunedin, 100	Odessa, 30	Antwerp, 66 hf. pms.
Iron Liquor—			Ghent, 50	San Francisco, 50	Ghent, 10
Naples, 3 t. 5 c.			Gd. Bassa, 5	San Sebastian, 32	Norroping, 50 1 cs. 330 brls
Iron Oxide—			Gd. Bassam, 30	Seville, 30	46 tcs. 25 cks.
Genoa, 11 t. 2 c.			Havana, 8	Tarragona, 10	Rotterdam, 25 cks.
Lime—			Hiogo, 10	Soda Ash—	Stettin, 30
Lagos, 3 t. 4 c. 3 q.			Manaos, 46	Amsterdam, 10 cks. 250 bgs.	Stockholm, 425
Pt. Natal, 18 tanks			Melbourne, 102 2	Baltimore, 70 75 tcs. 134	Terneuzen, 30
Magnesia—			M. Video, 7 4	Bombay, 13 brls. 20	Turpentine—
New York, 32 cs.			Montreal, 349	Boston, 61 143 1,040	Calcutta, 200 dms.
Magnesium Chloride—			N. Orleans, 700	Calcutta, 150	Sierra Leone, 25
New York, 5 t. 6 c.			Newport News, 50	Ceara, 15 brls.	Varnish—
Rouen, 38 dms.			Opobo, 25	Dunedin, 12	B. Ayres, 6 cs. 6 dms.
Magnesium Sulphate—			Para, 191 13	Ghent, 150	Rio de Janeiro, 3 6 dms.
Montreal, 40 brls.			Pt. Natal, 1 5	Maranham, 30	Rotterdam, 3
Rio de Janeiro, 100 kgs.			Rio de Janeiro, 3 11	Melbourne, 588	Santander, 2 cks.
Manganese—			Rotterdam, 100	M. Video, 5 25	Whiting—
Hamburg, 4 cks.			Salt Pond, 12 10	Montreal, 22	Calcutta, 7 1/2 t.
Manganese Ore—			Sapeli, 5	New York, 2,250	Melbourne, 19 25 c. 30 brls.
Montreal, 1 ck.			Sierra Leone, 50	Philadelphia, 93 96 tcs. 680	M. Video, 50
Ochre—			Sydney, 100	Rio de Janeiro, 10	Talcahuano, 50
E. London, 30 brls.			Talcahuano, 3 4	Samarang, 29 brls.	Wood Spirit—
St. John's, 30 kgs.			Trinidad, 20	San Francisco, 141	Calcutta, 20 dms.
Paint			Valparaiso, 2 5	Valparaiso, 50	Zinc Chloride—
Alexandria, 5 dms.			Wellington, 132	Yokohama, 60	Bombay, 8 t.
Barcelona, 3 cs. 59			Saltpetre—	Soda Crystals—	
Beyrou, 30 kgs.			Ceara, 16 c.	Boston, 16 brls.	
Bremen, 11			Rio de Janeiro, 2 t. 12 2 q. 63	Cape Town, 20 20 kgs.	
B. Ayres, 62 cks			Parabyba, 1 10 1 38	Gibraltar, 10	
Cadix, 20			Sheep Dip—	Montreal, 32 50	
Calcutta, 14 3			Wellington, N.Z., 14 t. 18 c. 1 q. 6331	New York, 112 560 cks.	
Cienfuegos, 3			B. Ayres, 44 6 916	Pernambuco, 30	
Dakar, 100			Punta Arenas, 7 19 3 215	Philadelphia, 50 84	
Guaymas, 1			Rangoon, 11 1 13	Rotterdam, 10	
Halifax, 2			M. Video, 3 5 75	S. John's, N.F.J., 134	
Havana, 4			Pt. Natal, 1 16 100	Sydney, 10	
Havre, 4			Soap—	Sodium Bicarbonate—	
Hong Kong, 2 brls. 49			Accra, 40 bxs.	Alexandria, 20 kgs. 85 brls.	
Lagos, 29			Alexandria, 14	Algoa Bay, 40 50 bgs.	
Manaos, 7			Akassa, 64	Amsterdam, 20	
New York, 8 cs. 7			Algoa Bay, 557 1,366 cs.	Antwerp, 43 16 cks.	
Para, 41 117 8			Anamaboe, 100	Auckland, N.Z., 40	
Ponce, 6			Appam, 100	Barcelona, 230	
Pt. Natal, 85 pkgs. 8 4			Barbadoes, 1,050	Batavia, 20	
San Juan, 2 brls. 157			Batavia, 1,000	Beyrou, 20	
Santander, 3			Barranquilla, 12	Bombay, 200	
Sierra Leone, 2 122			Benin, 200	Boston, 50	
Talcahuano, 48			Bombay, 560 24	Bremen, 40	
Valparaiso, 44 cs. 10			Bonny, 112	B. Ayres, 20	
Painters' Colours—			Buguma, 112	Calcutta, 790	
Antwerp, 10 cks.			Calcutta, 2 cks. 500 bds.	Copenhagen, 72 6	
Baltimore, 19 10 kgs 14 brls.			C. C. Castle, 60	Dunedin, 110	
Bombay, 19 cs.			Cape Town, 1,319 110 cs.	E. London, 80 bgs.	
Boston, 1 ble.			Christiania, 311	Genoa, 45 38	
B. Ayres, 25 cs. 94			Curacao, 311	Hamburg, 40	
Calcutta, 13			Delagoa Bay, 1,168 35	Havana, 25	
Coquimbo, 10			Demerara, 200	Havre, 18	
Galatz, 100			Dominica, 30	Karachi, 150	
Hamburg, 50 bgs. 12 1 dm.			Durban, 10	Lisbon, 20	
Leghorn, 100			E. London, 901 75	Malta, 50	
Lisbon, 1			Gibraltar, 314 7	Marseilles, 115	
M. Video, 24 cs. 10 3 pkgs.			Gd. Canary, 235	Melbourne, 300 20	
Montreal, 70 1 15 brls.			Gujon, 4 7	Montreal, 255 15 100	
N. Orleans, 185			Havre, 935	N. Orleans, 225	
New York, 1 bx. 68			Honolulu, 200	Newport News, 645 217	
			Macassar, 500	New York, 120	
			Madras, 5	Odessa, 150	
			Malta, 90	Palermo, 15	
				Paris, 122 8	
				Rangoon, 50	

MANCHESTER

Week ending August 7th.

Aniline Colours—	
Hamburg, 1 cs.	
Rotterdam, 4 cks.	
Aniline Oil—	
Rotterdam, 41 dms.	
Aniline Salt—	
Antwerp, 5 cs.	
Barcelona, 10	
Rotterdam, 1 ck.	
Benzol—	
Rotterdam, 20 dms.	
Carbolic Acid—	
Treport, 224 dms.	
Chemicals (otherwise undesignated)	
Hamburg, 8 cks.	
Rotterdam, 15 kgs.	
Colours—	
Barcelona, 1 cs.	
Creosote—	
Rotterdam, 34 cks.	
Creosote Salts—	
Treport, 60 bgs.	
Extracts—	
Rouen, 10 cks.	
Glue—	
Antwerp, 6 cks.	
Rotterdam, 9	
Tar Oil—	
Antwerp, 20 tins 3 dms.	
Rotterdam, 25 cks.	
Treport, 77 10	
Tar Salts—	
Hamburg, 50 cks.	

HULL.

<i>ending August 3rd.</i>		
400 bgs. 2 cks. 159 dms.		
burg,	4	
ium Sulphate—	4	
500 bgs.	1	
lam,	12 dms.	
ng Powder—	17 pks.	
180 cks.	6	
Soda—	2	
150 dms.		
als (otherwise undescribed)		
lam,	20 cks.	200 pkgs.
2,	7	1 cs.
nia,	1	
agen,	3	10 pks. 760 slbs.
rim,	2	80 pkgs.
c,	8	10 pks. 395
burg,	200	8 cs.
rg,	10	
47	1	76
100		
am,	90	
33	394	
35	20	
rsburg,	2	
14		
eed Oil—		
lam,	121 c.	
pr,	200	
nia,	68	
98		
rg,	349	
lam,	187	
50		
ms (otherwise undescribed)		
pr,	2 cks.	
nia,	25 bgs.	
rg,	1	
o,	7	2 cs.
lam,	7	
3		
1		
ersburg,	6	
d Oil—		
lam,	206 c.	
ad,	34	
43		
ania,	575	
ansund,	24	
eim,	76	
burg,	24	
rg,	111	
lam,	51	
ger,	86	
155		
8—		
831 t.		
20		
ia—		
agen,	3 dms.	
rk,	1 ck.	
rg,	24	
re Colours—		
rdam,	45 cks.	
rp,	12	2 cs. 120 pkgs.
ania,	4	
28	4 dms.	
agen,	1	
ansund,		56 pks.
heim,	1	86
2		
6		
nburg,	1	1 cs.
23		
rg,	6	
rdam,	4	1 3
2		
1		
tersburg,	25	2
ger,		50
e,		83
rp,	211 t.	
e Stone—	1 ck.	
hagen,	2 cs.	
100 bbs.		

Tallow—		
Rotterdam,	34 tcs.	
Reval,	5 cks.	
Tar—		
Rotterdam,	5 cks.	
Reval,	20	
Stettin,	2	
Varnish—		
Amsterdam,	1 cs.	
Antwerp,	2	
Copenhagen,	2	1 pkge.
Gothenburg,		1 ck.
Hamburg,		
Rotterdam,	3	
Stettin,	15	
Whiting—		
Trieste,	34 cks.	

GLASGOW.*Week ending August 8th.*

Acids—		
U.S.A.,		£46
Ammonium Sulphate—		
Venice,	20 t.	6½ c.
Aniline Colours—		
U.S.A.,		£51
Asbestos—		
E. London,		£88
Caustic Soda—		
Seville,		£169
Coal Products—		
Creosote Oil		
France,		£955
U.S.A.,		45
Naphtha		
France,		£72
Pitch		
France,		£232
New Brunswick,		28
Canada,		46
Gothenburg,		100
U.S.A.,		486
Bombay,		16
Oporto,		140
Antwerp,	359 t.	
Rouen,	290	
Tar		
U.S.A.,		£50
Bombay,		183
Tar Oil		
Hamburg,	1 t.	6 c.
Dyestuffs—		
Extracts		
U.S.A.,		£174
Canada,		£63 19s.
Logwood		
Oporto,		£87. 9s.
Dyestuffs (otherwise undescribed)		
Boston,		£168
Glucose—		
Cape Town,	15½ t.	
Glue—		
Canada,		£40
Cape Town,	3½ c.	
Iodine—		
Rotterdam,		£870
Lead Nitrate—		
Canada,		£95
Linseed Oil—		
Malta,	1 t.	¾ c.
B. Ayres,	3	9¼
Litharge—		
Johannesburg,		£21
Manganese—		
Basle,		£100
U.S.A.,		110
Manure—		
Venice,	20 t.	5½ c.
Mica—		
U.S.A.,		3 c.
Paint—		
B. Ayres,		£117
Painters' Colours—		
Algoa Bay,		£42
Bombay,		170
Cape Town,		43
Transvaal,		33
Paraffin Wax—		
Cape Town,		£130
Phosphoric Acid—		
Calcutta,		£40
Potassium Bichromate—		
Boston,		£560
Antwerp,		147
Ghent,		67
U.S.A.,		1,197
Venice,	2 t.	7¼ c.

Rosin Oil—		
Amsterdam,		£60
Soap—		
U.S.A.,	3 t.	14¾ c.
Sodium Bichromate—		
Calcutta,		£396
Antwerp,		189
Ghent,		105
U.S.A.,		160
Sodium Phosphate—		
U.S.A.,		£43
Superphosphates—		
Gothenburg,	146 t.	16 c.
Tallow—		
Transvaal,	1 t.	
Treacle—		
Gothenburg,	46 t.	15 c.
White Lead—		
Calcutta,		£25

TYNE.*Week ending August 3rd.*

Alkali—		
Rotterdam,	2 t.	5 c.
St. Petersburg,	16	12
Alum—		
Odense,	1 t.	1 c.
Ammonium Sulphate—		
Stavanger,	5 t.	
Genoa,	10	
Antimony—		
Abo,		13 c.
Antwerp,	1 t.	
Christiania,		5
Rotterdam,	8	10
New York,	60	
Arsenic—		
Genoa,	1 t.	16 c.
Barium Binocide—		
New York,	12 t.	5 c.
Barytes—		
Hamburg,	101 t.	
Bleaching Powder—		
Abo,	65 t.	6 c.
Antwerp,	51	8
Hamburg,	5	2
Christiania,	16	10
Gothenburg,	30	6
Odense,	10	1
Rotterdam,	16	16
Copenhagen,	77	1
Bergen,	17	
New York,	50	5
St. Petersburg,	100	4
Caustic Soda—		
Abo,	86 t.	7 c.
Copenhagen,	1	14
Genoa,	32	17
Antwerp,	19	17
Hamburg,	1	15
Gothenburg,	10	3
Odense,	1	3
Rotterdam,	10	3
New York,	90	18
St. Petersburg,	50	4
Colours—		
Copenhagen,		3 c.
Genoa,	2 t.	13
Fluorspar—		
New York,	16 t.	11 c.
Iron Oxide—		
Rotterdam,	21 t.	
Lamp Black—		
Antwerp,		1 c.
Litharge—		
Abo,	1 ck.	2 t. 4 c.
Copenhagen,	1	2
Hamburg,	3	6
Christiania,		5
Genoa,	1	3
Magnesia—		
Copenhagen,		4 c.
Hamburg,		10
Genoa,		10
St. Petersburg,	2 t.	10
Manure—		
Venice,	25 t.	
Genoa,	103	4 c.
Ochre—		
Trondhjem,	1 t.	12 c.
Oxalic Acid—		
New York,	3 t.	9 c.
Paint—		
Genoa,	3 t.	
Antwerp,	1	1 c.
New York,	2	10

Salammoniac—		
Gothenburg,	1 t.	3 c.

Slag—		
Rotterdam,	10	
Soda—		
Abo,	8 t.	12 c.
Copenhagen,	5	
Antwerp,	5	7
Christiania,	10	7
Odense,	4	6
Genoa,	13	4
Gefle,	25	2
Stockholm,	23	15
Christiansund,	1	12
Aalesund,	1	6
New York,	54	1

Soda Ash—		
Copenhagen,	5 t.	4 c.
Hamburg,	8	3
Gothenburg,	24	18
Stockholm,	75	3

Sodium Bicarbonate—		
Christiania,	3 t.	

Sodium Hyposulphite—		
Rotterdam,	10 t.	
New York,	21	7 c.

Sodium Silicate—		
Venice,	3 t.	3 c.

Sulphur—		
Antwerp,	10 t.	1 c.
Skien,	150	
Gothenburg,	27	
Gefle,	50	

Superphosphate—		
Riga,	899 t.	2 c.

Tallow—		
Genoa,	9 t.	6 c.

Varnish—		
Genoa,		3 c.

White Lead—		
Abo,		2 c.
Copenhagen,	2 t.	6
Gothenburg,	3	18
New York,	7	15

GOOLE.*Week ending July 31st.*

Benzol—		
Rotterdam,	24 dms.	
Chemicals (otherwise undescribed)		
Boulogne,	4 cks.	
Ghent,	25 pkgs.	
Coal Products (otherwise undes.)—		
Antwerp,	2 cks.	
Boulogne,	1	
Ghent,	2	
Hamburg,	1	
Rotterdam,	28	5 cs.
Colours—		
Boulogne,	2 cs.	
Dunkirk,		6 cks.
Ghent,	2	1 dm.
Hamburg,	1	
Dyestuffs (otherwise undescribed)		
Hamburg,	2 cks.	
Manure—		
Dunkirk,	181 bgs.	
Pitch—		
Antwerp,	55 t.	

GRIMSBY.*Week ending August 3rd.*

Alkali—		
Port au Prince,	17 dms.	
Chemicals (otherwise undescribed)		
Dieppe,	4 cks.	
Hamburg,	23 cs.	7 pkgs.
Colours—		
Antwerp,	4 cks.	
Hamburg,	1	
Malmo,	8	
Port au Prince,	1	
St. Thomas,	2	4 cs.
Dyestuffs (otherwise undescribed)		
Dieppe,	154 cks.	3 cs.
Manure—		
Malmo,	10 cks.	
Soap—		
Dieppe,	7 cs.	

PRICES CURRENT.

WEDNESDAY, AUGUST 14TH, 1895.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids :—

Acids:—		£	s.	d.
Acetic, 25% and 40%	per cwt.	6/	&	9/-
Glacial	"	40/-		
Arsenic S.G., 2000°	"	0	15	0
Fluoric	per lb.	0	0	3½
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
(Cylinder), 30° Tw.	"	0	3	0
Nitric 80° Tw.	per lb.	0	0	1½
Nitrous	"	0	0	1½
Oxalic	nett	0	0	3½
Phosphoric, 1750°	"	0	1	1
Picric	"	0	0	10
Sulphuric (fuming 50%)	per ton	15	10	0
(monohydrate)	"	5	10	0
(Pyrites, 168°)	"	3	0	0
" 150°	"	1	5	0
(free from arsenic, 145°)	"	1	6	0
Sulphurous (solution) S.G. 1025	"	3	0	0
Tannic (pure)	per lb.	0	1	0
Tartaric	"	0	0	11½
Arsenic, white powdered	nett per ton	15	5	0
Alum (loose lump)	"	4	12	6
Alumina Sulphate (pure)	"	4	12	6
Aluminaoferic	"	2	7	6
Aluminium	per lb.	0	2	10
Ammonia, Anhydrous	"	0	1	3
" 880° = 28° B.	per lb.	0	0	3
" = 24° B.	"	0	0	2½
" Carbonate	nett	0	0	3½
" Muriate	per ton	22	0	0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/- &	37/-	
" Nitrate	per ton	38	10	0
" Phosphate	per lb.	0	0	7½
" Sulphate (grey) London	per ton	9	5	0
" (grey) Hull	"	9	5	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt	"	0	0	4¾
Antimony	per ton	31	15	0
" (tartar emetic)	per lb.	0	0	7
" (golden sulphide)	"	0	0	10
Barium Chloride	per ton	6	7	6
" Carbonate (native)	"	3	5	0
" Sulphate (native levigated)	"	42/6 to	65/-	
Bleaching Powder, 35%	nett	"	7	0
" Liquor, 7%	"	3	10	0
Bisulphide of Carbon	"	13	0	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	2	6
China Clay (at Runcorn) in bulk	"	15/- to	30/-	
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20%	nett per lb.	0	0	8
Magenta	"	0	3	9
Anthracene, 30% A, f.o.b. London	per unit per cwt.	0	1	0½
Benzol, 90% nominal	per gallon	0	0	11
50/90	"	0	0	11
Carbolic Acid (crystallised 40°)	per lb.	0	0	5½
(crude 60°)	per gallon	0	1	7
Creosote (ordinary)	"	0	0	1½
" (filtered for Lucigen light)	"	0	0	2
Crude Naphtha 30% @ 120° C.	"	0	0	5½
Grease Oils, 22° Tw.	per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston	"	1	13	0
Solvent Naphtha, 90% at 160°	per gallon	0	1	0
" Lucigen " and " Wells " Oils	"	0	0	2½
Copper	per ton	47	0	0
" Sulphate	"	16	10	0
" Oxide (copper scales)	"	41	10	0
Glycerine (crude)	"	16	10	0
(distilled S.G. 1250°)	"	42	10	0
Iodine	nett, per oz.	0	0	9
Iron Sulphate (copperas)	per ton	1	5	0
" Sulphide (antimony slag)	"	2	0	0
Lead (sheet) for cash	"	12	10	0
" Litharge Flake (ex ship)	"	43	15	0
" Acetate (white)	"	22	10	0
" brown	"	14	10	0
" Carbonate (white lead) pure	"	16	0	0
Nitrate	"	18	15	0

Lime, Acetate (brown)	per ton	5 12 6
" " (grey)	"	8 5 0
Magnesium (ribbon and wire)	per oz.	0 2 7
" Chloride (ex ship)	per ton	2 7 6
" Carbonate	per cwt.	1 17 6
" Hydrate	per ton.	17 0 0
" Sulphate (Epsom Salts)	per ton	3 0 0
Manganese, Sulphate	"	17 0 0
" Borate	per cwt.	2 15 0
" Ore, 70 %	per ton	4 5 0
Methylated Spirit, 61° O.P.	per gallon	0 1 10
Naphtha (Wood), Solvent	"	0 3 0
" " Miscible, 60° O.P.	"	0 3 0
Oils:—		
Cotton-seed	per ton	18 10 0
Linseed	"	22 10 0
Petroleum, American	per gallon	0 0 6½
Stearine	per ton	24 0 0
Phosphorus (yellow)	per lb.	0 2 2
" (red)	"	0 2 8
Potassium (metal)	per oz.	0 3 7
" Bichromate	per lb.	0 0 4½
" Carbonate, 90% (ex ship)	per ton	17 0 0
" Chlorate	per lb.	0 0 4½
" Cyanide, 98%	"	0 1 6
" Hydrate (Caustic Potash) 80/85 %	per ton	21 5 0
" " (Caustic Potash) 75/80 %	"	19 15 0
" " (Caustic Potash) 70/75 %	"	19 10 0
" Nitrate (refined)	per cwt.	1 1 6
" Permanganate	per cwt.	2 17 6
" Prussiate Yellow	per lb.	0 0 7½
" Sulphate, 80 % (ex ship)	per ton	9 15 0
" Muriate, 90 % (do.)	"	8 10 0
Silver (metal)	per oz.	0 2 6½
" Nitrate	"	0 2 0
Sodium (metal)	per lb.	0 2 1½
" Carb. (refined Soda-ash) 48 %	per ton	4 15 0
" " (Caustic Soda-ash) 48 %	"	3 17 0
" " (Carb. Soda-ash) 48 %	"	3 15 0
" " (Alkali) 58 %	"	3 7 6
" " (Soda Crystals)	"	2 2 6
" Acetate (ex-ship)	"	14 0 0
" Arseniate, 45 %	"	11 0 0
" Chlorate	per lb.	0 0 4½
" Borate (Borax)	net, per ton.	18 10 0
" Bichromate	per lb.	0 0 1½
" Hydrate (77 % Caustic Soda) (f.o.b.)	net, per ton	9 7 6
" " (74 % Caustic Soda)	"	8 7 6
" " (70 % Caustic Soda)	"	7 10 0
" " (60 % Caustic Soda)	"	6 10 0
" " (60 % Caustic Soda, cream) (f.o.b.)	"	6 7 6
" Bicarbonate	"	6 10 0
" Hyposulphite	"	5 10 0
" Manganate, 30%	"	16 0 0
" Nitrate (95 % ex-ship Liverpool)	per cwt.	0 7 10½
" Nitrite, 98 %	per ton	29 0 0
" Phosphate	"	14 10 0
" Silicate (glass)	per ton	4 10 0
" " (liquid, 100° Tw.)	"	3 10 0
" Stannate, 40 %	per cwt.	3 2 9
" Sulphate (Salt-cake)	per ton.	0 15 0
" " (Glauber's Salts)	"	1 5 0
" Sulphide	"	8 0 0
" Sulphite	"	5 5 0
Strontium Hydrate, 100%	"	8 10 0
Sulphocyanide Ammonium, 95 %	per lb.	0 0 6½
" Barium, 95 %	"	0 0 4½
" Potassium	"	0 0 7
Sulphur (Flowers)	per ton.	6 5 0
" (Roll Brimstone)	"	5 0 0
" Brimstone: Best Quality	"	3 12 6
Superphosphate of Lime (26%)	"	2 7 6
Tallow	"	22 10 0
Tin Crystals	per lb.	0 0 3½
" English Ingots	per ton	67 0 0
Zinc (Spelter)	"	15 7 6
" Chloride (solution, 100° Tw.)	"	5 7 6

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431.

SATURDAY, AUGUST 24, 1895.

Vol. XVII.

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CURRENT TOPICS.

RESTRICTING BLACK SMOKE.

IT appears that Oldham has been aroused to a sense of its
responsibility, at least that is, doubtless, how the matter
will be viewed by those who devote their energies to the
suppression of black smoke.

As a matter of fact, the rights and wrongs of the produc-
tion of black smoke cannot be settled by fixing an arbitrary
and universal standard. What applies in one town does not
hold good in another. As it is there is great variation in the
number of minutes in the hour allowed by the leading
industrial centres, and these variations will have to exist if the
question is to be dealt with equitably.

The change at Oldham is to be a big one, as the existing
time is to be reduced in a very decided manner. Hitherto
the emission of black smoke has been limited to nine minutes
in the hour, but, in accordance with the resolution which has
now been passed by the Sanitary Committee, four minutes in
the half-hour is to be the limit.

As far as can be seen, there is no cause to quarrel with the
change, since up to now Oldham appears to have given as
long if not a longer time than most manufacturing towns.

Moreover, with very few exceptions, the conditions of firing
are such as to enable very little black smoke to be produced
with efficient stoking, while various smoke-consuming or
automatic-stoking devices might well be employed.

Under such circumstances, there can be but little hardship
imposed by the adoption of more stringent regulations than
have obtained in the past.

There is one point, however, that we wish to bring before
the notice of those who are apt to be somewhat over-zealous
in prosecuting what is, in the main, a worthy cause, and that
point is this—although Oldham is able and justified in
tightening the restraint upon the production of black smoke,
it does not follow that any other town or city can, should, or
must, follow suit. Before this can be, similar conditions must
exist, and we trust, when making use of this change at
Oldham as an argument for changes elsewhere, due weight
will be attached to the circumstances under which such an
apparently revolutionary reform was achieved.

PHOSPHATE OF LIME IN ALGERIA.

The discovery of very important beds of phosphate of lime
in Algeria, promises to lead to some trouble as to whom the
deposits shall be leased for working. If there is any reliance
to be placed on the enormous estimated value of the deposits,
so far explored, there should be room for all, since beds to the
value of 120,000,000 pounds sterling cannot be exhausted in a
day, or year.

At present concessions have been made to two English
companies, but this seems to have greatly angered the
French, who are endeavouring to get the concessions annulled
on the ground that they have been fraudulently granted.

Phosphate of lime is much wanted by French agriculturists, who plead that if the present concessions are not cancelled the produce of these beds will all go to England, to the detriment of French agriculture.

This is a very ingenious way of putting the matter, which is, however, capable of another representation. France is not the only country that wants phosphate of lime. In the hands of the French, the beds could be worked at a nice profit, while their own wants could be supplied at a low figure, thus handicapping agriculturists in other countries. In the hands of English companies it is very probable that instead of reaping a profit, a premium would have to be paid by French cultivators.

First come, first served, is, on the whole, a sound rule to abide by in such cases, and it is hard to see why it should not hold good in this particular instance. If phosphate of lime is so absolutely essential to the welfare of French agriculture (as distinct from the monetary advantages that would result from a national monopoly), how does it come about that English enterprise has been allowed first innings when such valuable property was to be secured?

But, after all, why should it be necessary for one country to have the sole right to work these beds? Might not the land be allotted in proportion to the capital (which represents working power) invested by the respective companies? As the deposits are on French territory, certain benefits as to choice of ground might be granted to the French, and then other comers treated according to their financial status.

PETROLEUM FINDS.

The scarcity of petroleum that has recently enabled the S.O. to make such a *coup*, shows how great was the virtual monopoly enjoyed by this company. The fact that the discovery of fresh supplies of crude oil in the States progresses comparatively slowly has caused more than one to contemplate the possibility of breaking up the huge "ring" that has so long ruled the roost. There certainly are several incidents that make such an idea worthy of consideration.

If petroleum is running short in America, there are many good finds cropping up elsewhere. Apart from the possibilities of the supply from Galicia, New Zealand gives promise of becoming a source of supply. In Java the wells are yielding abundantly, and the fresh borings are bearing fruit, the production in this island being fairly well established. And now, according to the latest advice from Oran, Algeria, one of the most important supplies of this oil in the world has been tapped. The great point at issue is, will the ubiquitous Standard secure the control of these supplies, or will they be developed by exterior enterprise? In the latter case it would not be very surprising to see the S.O. show signs of lameness in the near future. Their "cutting" powers have been almost invincible in the past, but their present position is less impregnable. These new forces could doubtless prove a thorn in the flesh, while an alliance with the Russian producers would, we should think, result in some interesting *tableaux*, in which it is quite possible that the S.O. might play a different rôle to that which they have so long sustained.

THE RUSSO-AMERICAN PETROLEUM COMBINE. — It appears that even the Standard Oil Co. repudiates the rumours about any such combination, as a New York paper, giving the report of an interview with a prominent member of the Standard Oil Co., publishes a further absolute denial to the previously published statement that an agreement had been entered into with the Russian oil companies for the purpose of establishing an international monopoly in the trade.

NITRATION.

(Concluded from p. 96.)

MANUFACTURE OF NITROBENZENE.

THIS most important substance, discovered by Mitscherlich is produced by the action of nitric acid on benzene, and first manufactured on the large scale by Messrs. Simpson, Mr. Nicholson, of Kennington, in 1856. In the earlier days about vessels were placed in a row, each of which contained 1 to 2 benzene, and the mixture of nitric and sulphuric acids was poured a workman from a stoneware jug. Starting at one end he poured some acid and shook up. As soon as he could leave the first went on to No. 2, and having gone down the row went back and worked through again until the whole of the acid was used. The operation is now carried out in cast-iron vessels provided with lids and stirrers, the whole being driven by shafting at a considerable height above the ground. The iron vessels in which the nitration place are well cooled by water during the process, and are trays to catch the water used in cooling, which flows down the sides of the vessels.

The benzene being placed in the vessels, the acid mixture is to run in in a thin stream, agitation and cooling being resorted to the whole of the process; the agitation is especially necessary to prevent local heating, by which inflammation of the whole might occur. The quantities used vary in different works. On the Continent from 100 to 200 lbs. of benzene are nitrated in each vessel at a time, whilst in this country from 500 to 1,800 lbs. are operated once (say about 100—200 gallons of benzene). The nitrating mixture is made up of 100 parts by weight of nitric acid of s.g. 1.38 parts by weight of sulphuric acid of s.g. 1.845 (i.e. 95—96%) such a quantity of acid is sufficient to nitrate 78 parts by weight of benzene; or supposing one is operating on 100 kilos. of benzene, 179 kilos. of nitric acid to 179 kilos. of sulphuric acid are required. The operation of nitration requires 8 to 10 hours. When all the acid has been added, the temperature is allowed to rise, the supply of water being shut off. After settling the acid is drawn off and the benzene well washed with water. Such nitro-benzene is already aniline manufacture. If myrbane is required it is necessary to separate the nitrobenzene.

By the further action of nitric acid on benzene in presence of sulphuric acid at a high temperature metadinitrobenzene is produced. In practice the benzene is first mononitrated as just described, and then a second charge of acid equal to the first is run in and the temperature allowed to rise rapidly; in this process good stone-ware distilling apparatus is required to prevent loss of the acid as products which distil at the higher temperature attained. The benzene is washed with cold and then with hot water, the washings should be preserved for a second operation as dinitrobenzene is somewhat soluble in hot water. Ordinary dinitrobenzene as manufactured consists essentially of the metadinitro substance, though quantities of the ortho and para occur along with it; needless to say in the manufacture of both nitro and dinitrobenzene, the corresponding toluene derivatives are also formed in some amount on account of the toluene contained in commercial benzene.

Other methods have been proposed for the manufacture of nitrobenzene, the idea being to extract the benzene from coal-gas by passing the gas through a mixture of nitric and sulphuric acids. Leigh was the first to patent this in 1863; and Kendal, who took out a patent in 1882, removed unsaturated fatty hydrocarbons by passing the gas through strong sulphuric acid and then absorbing the benzene in a mixture of sulphuric and nitric acids. In his English patent Kendal modified the process so as to render the removal of the unsaturated fatty carbons unnecessary. The coal-gas is passed through a superheated cast-iron tubes, filled with coke and kept at a red heat, these carbons, which would otherwise hinder the process of nitration, are thereby converted into benzene and its homologues. The gas is then regulated, the rate being determined by trial, and in an experiment where 8,000 ft. of gas per hour were passed through nine tubes, each 8 in. wide and heated for 10 ft., the quantity of benzene was raised from 5 to 40%, though it must be admitted that the nitrating power of the gas was reduced. Messrs. Sadler and Middlesbrough, adopted the process, and exhibited specimens at the International Exhibition of 1885, about which a short account is given in the Journal of the Society of Chemical Industry for that year. The objection to the process is that the dinitro and not the mononitro product is obtained, the former having but a limited application in the aniline colour industry.

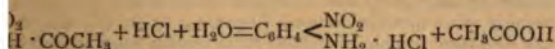
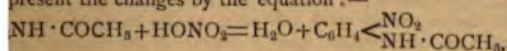
It will have been noticed that heat is necessary for the production of dinitrobenzene, the first nitro group entering in the cold; it is more difficult to effect the introduction of a third nitro group, and necessary to heat 2 parts of dinitrobenzene with 6 parts of nitric acid and 15 parts of fuming sulphuric acid to about

mono and dinitrobenzenes are fairly stable towards alkalis, benzene may be oxidised by potassium ferricyanide in weak solution to picric acid.

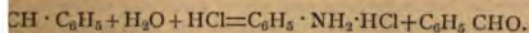
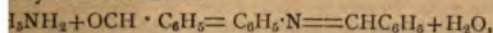
Necessary for me to treat of the production of nitro derivatives of alene and higher hydrocarbons; it will suffice to state that the first nitro group enters readily, succeeding nitro groups increasingly difficult to make their way into the molecule.

Of great interest is, however, the precautions which have been observed in the preparation of nitro-derivatives of organic bases. Most aromatic hydrocarbons and their derivatives readily lend themselves to nitration, it is pretty generally known that the introduction of nitric acid leads to what may be described as a

The amido group seems to open up a way for the nitric attack the molecule, and usually, unless the amido group be removed, hopeless results are obtained. Protection of this sort may be effected by replacing one of the hydrogen atoms of an NH_2 group by a group. Acetanilide yields with nitric acid a mixture of ortho and para nitro derivatives, thus, if 1 part of acetanilide be dissolved in cold fuming nitric acid and the resulting solution poured into water, nitracetanilide is precipitated, whilst the ortho compound remains in solution and may be extracted by chloroform. The anilides can be decomposed by hydrolysis with hydrochloric acid and present the changes by the equation:—



One way to protect the amido group consists in forming the ortho compound of the amido substance and then nitrating. By warming aniline and benzaldehyde a compound easily decomposed by acids is obtained.

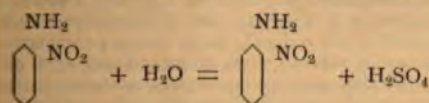


Based on this has been recently patented, the nitrated ortho compounds of amido substances being hydrolysed.

Under certain circumstances an aniline salt itself may be nitrated using a derivative, and Levinstein in 1889 patented a process for the direct production of meta nitraniline from aniline according to his specification 10 kilos. of finely powdered aniline are introduced into 40 kilos. of well-cooled concentrated nitric acid. The temperature must not go above $+5^\circ\text{C}$. After 10 minutes the mass is passed into 400 litres of water and neutralised.

Similar to this have been adopted by various chemists in the production of nitroderivatives of bases. Noelting has worked out in which the base, e.g., aniline, is dissolved in an excess of concentrated sulphuric acid, and the equivalent quantity of nitric acid with concentrated sulphuric acid, is added to the well-cooled mixture. A similar process was adopted by Dufton in the case of quinoline. According to the earlier process the quinoline is added to concentrated nitric acid. The operation was an expensive one, as it frequently went on with explosive violence, and the products were always produced. Dufton's improvement consisted in nitrating quinoline nitrate, and then dissolving this in concentrated sulphuric acid, adding some fuming sulphuric acid after each addition. In this way he obtained a mixture of salts of ortho and para nitranilines, the separation of the two bases being effected by means of their different solubilities of their nitrates.

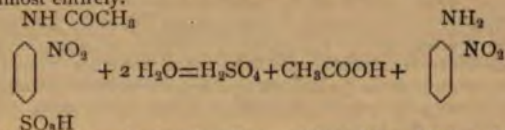
It has been noticed that according to Levinstein's specification aniline is the chief product formed, whilst, when acetanilide is nitrated, a mixture of ortho and para nitroderivatives is produced. However, shows a disposition to form the greater quantity, under variation of conditions, very little except para acetanilide is obtained. In order to obtain the ortho compound in greater quantity R. Benckiser split off sulphuric acid from ortho-nitraniline by heating with concentrated hydrochloric acid under



SO_3H

The simplification of the process was worked out by Charles Benckiser on the instigation of Dr. Heizberg, of the Mülhausen Chemical Works. The method, I believe, is now used in practice—50 grams of aniline are heated about half-an-hour on the water bath with 150 g. of concentrated sulphuric acid (20% SO_3), and after cooling, 100 grams of concentrated sulphuric acid are added. The liquid is well stirred, and 37 g. of 63% nitric acid added, the nitric acid being diluted

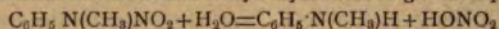
with an equal volume of strong sulphuric acid. The temperature during this operation must remain below 60°C ; after the reaction 140 c.c. of water are added. By boiling for about half-an-hour the dilute sulphuric acid effects the hydrolysis of the sulphuric group and also of the acetyl group almost entirely.



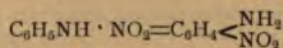
SO_3H

The nitraniline can be fractionally precipitated by addition of water; the total yield of orthonitraniline corresponded to 70% of the theoretical.

Although the processes we have so far considered for the nitration of aniline have led to true nitranilines, one must mention that under certain circumstances a nitro substance is produced in which the nitro group is attached to nitrogen. By oxidation of diazobenzene, Bamberger obtained a substance to which he gave the name and formula diazobenzolic acid, $\text{C}_6\text{H}_5\text{NH} \cdot \text{NO}_2$. This substance is an acid in properties, and gives salts with the alkali metals, which are converted into the methyl ether by methyl iodide. This methyl ether decomposes into methyl-aniline and nitric acid on hydrolysis according to the equation—



so that diazobenzolic acid has the formula Bamberger assigned to it. The preparation of this substance by the direct nitration of aniline was effected by Bamberger by dropping melted nitrogen pentoxide into an ethereal solution cooled to -20° , diazobenzene and aniline nitrates being formed at the same time. The diazobenzolic acid forms colourless leaflets resembling naphthalene, and is very readily acted on by mineral acids, undergoing a molecular transformation and forming nitranilines.



Bamberger considers it very probable that in the ordinary methods of nitration of bases such compounds are first formed as intermediate products then undergoing isomeric change.

In this connection it must be mentioned that many nitramines of the fatty series have been prepared by Franchimont by dissolving the nitrates of fatty amines in strong sulphuric acid, thus methylamine NH_2CH_3 gives methylnitramine $\text{CH}_3\text{NH} \cdot \text{NO}_2$.

The reaction has also been studied by Thiele in the case of simple amido bodies, and guanidine, $\text{C}(\text{NH})(\text{NH}_2)_2$, has been made to yield in succession nitroguanidine $\text{C}(\text{NH}) \begin{smallmatrix} \text{NHNO}_2 \\ \text{NH}_2 \end{smallmatrix}$, and amidoguanidine

$\text{C}(\text{NH}) \begin{smallmatrix} \text{NH} \cdot \text{NH}_2 \\ \text{NH}_2 \end{smallmatrix}$. Most remarkable, perhaps, is the preparation of nitramide, $\text{NH}_2 \cdot \text{NO}_2$, by Thiele and Lachmann. Methane easily yields a nitroderivative $\text{NO}_2 \cdot \text{NH} \cdot \text{COOC}_2\text{H}_5$, and by concentrated methyl alcoholic potash the ethyl group is replaced by potassium. The free nitrocarbamic acid cannot, however, be obtained by sulphuric acid; carbon dioxide escapes and nitramide results. By extraction with ether the compounds may be removed; when pure it forms bright colourless crystals, which melt at 72° . The compound readily decomposes into nitrous oxide and water.

PETROLEUM LAMP ACCIDENT.—The Lancaster Corporation Fire Brigade were recently called out to a fire at a cottage in the town occupied by John Hodgkinson, boltmaker. The outbreak was caused by the bursting of a paraffin lamp in the bedroom, setting the whole room on fire. The inmates had great difficulty in making their escape, Hodgkinson in his efforts to rescue the family being badly burnt.

A RAILWAY RATES DECISION.—The summons by the Ship Canal Company against the Shropshire Union Railway Company, asking for an order of the court that paragraph three in the answer of the Shropshire Company on rates should be struck out on the ground of being embarrassing and irrelevant to any issue in the action, was disposed of in a Court of the Railway and Canal Commission by Mr. Justice Collins last week. Mr. Balfour Browne, for the Canal Company, explained that the paragraph was to the effect that if a through rate were granted the route from Ellesmere Port to the Cobden Flour Mills Company at Wrexham ought not to be by the route proposed, but by the route hitherto adopted for similar traffic to the same destination from the quays at Ellesmere Port to the station, by the lines of the Shropshire Union to Chester, and by the London and North-Western and Great Western joint lines to its destination. The Canal Company's objection was that it was the first time the railway had ever mentioned a route. Further, a through rate could be proposed by any forwarding company, and in the meantime the Canal Company said they were a forwarding company. For the Railway Company it was contended that the paragraph objected to could not be irrelevant inasmuch as it concerned matters upon which the Court must give an opinion. The judge ruled that the application should be dismissed without costs.

Official Memoranda.

(From the Board of Trade Journal.)

THE BELGIAN MARGARINE TRADE.

Mr. George W. Roosevelt, United States Consul at Brussels, states that the consumption of margarine in Belgium during the past few years has been very considerable. The country produces from 2,000,000 to 3,000,000 kilograms (4,409,200 to 6,613,800 pounds annually). The present consumption requires an annual importation of about 12,000,000 kilograms (26,455,200 pounds).

Very nearly the entire quantity of margarine consumed in Belgium is imported from Holland. It is estimated that the annual consumption in Belgium of this article amounts to 15,000,000 kilograms (33,069,000 pounds).

Statistics show a falling off in the importation of fatty substances other than butter and margarine, which proves that the latter product has almost entirely replaced fats of inferior quality which were formerly used. The consumption of margarine steadily increases, and is now sold in all the cities of that country under a distinctive name. The Belgian Government is favouring the manufacture of margarine, not only to supply the home demand, but, if possible, to compete with Holland for the English market. England imports annually more than 65,000,000 kilos. (143,299,000 pounds) of this product, valued at 90,000,000 francs, principally from Holland, which makes a specialty of mixing American oleomargarine with oil and milk.

To secure a part of the trade with England, the Belgian Government proposes to establish a duty of 20 frs. per 100 kilos. (220.46 pounds) on all imported margarine, and an excise duty of 5 frs. on home production. The remission of the excise tax will be authorised by law on exportation.

In France, margarine, oleomargarine, alimentary fats, and similar products are liable to a customs duty of 15 frs. per 100 kilos.; and lard, 14.50 frs. per 100 kilos. In Germany, artificial butter is taxed 25 frs. per 100 kilos. Pork, goose, and other melted fats, also margarine and beef marrow, are taxed 12.50 frs. per 100 kilos. The Belgian Government wishes to confine the duty to natural butter, margarine, mixtures of fats and oil, and, excepting milk, will permit all raw materials free entry.

To produce 100 kilograms of margarine at least 65 kilograms (143.3 pounds) of oleomargarine, 20 kilograms (44.2 pounds) of vegetable oil, and 30 kilograms (66.43 pounds) of milk are required, half of which is eliminated in the form of water.

Very little oleomargarine is manufactured in Belgium. Large quantities are produced in Austria and France, but nearly the entire continent of Europe receives its supply from New York and Chicago. Importation is almost exclusively via the port of Rotterdam, which received, in 1893, more than 35,000,000 kilograms (72,651,800 pounds).

Some time since, France sent a commission to Holland for the purpose of studying the methods employed there for the suppression of frauds in butter making, and also to ascertain if the manufacture of margarine has been favourable to agricultural interests. The report contains the attestation of seven mayors of communes in southern Holland, showing that since the introduction of the margarine industry in that country, not only has the price of milk increased, but also the number of cattle, which plainly shows that the industry in question has become a source of profit to the farmers.

THE DAHOMEY PALM OIL INDUSTRY.

Dahomey is covered with oil palms, it is possible to travel for 10 or 15 hours on a cart or in a canoe without losing sight of them. The flowers hang in bunches, and the fruit is a sort of nut of a fibrous pulp impregnated with fatty substances. The bunches, gathered as soon as the nut is red, are first thrown in a heap; the nuts are allowed to ferment, are then shelled and placed in earthen pans filled with water and boiled over a slow fire for six or seven hours. They are then pressed by women with bare feet in mortars hollowed in the trunks of trees or disused canoes. This operation lasts two or three days to a slow monotonous chant. When the nuts are considered to be sufficiently pressed, water is thrown into the receptacles and stirred with the hand; a sort of orange-coloured froth, sweet to the taste and having an odour of the violet, commences to rise to the surface. This is the first oil and the finest, fresh and edible. It is collected into jars by means of calabashes. The water is then poured off and there remains at the bottom the kernels, which are peeled and taken to the factory. From these kernels a second oil is extracted which forms about 41 per cent. of the total quantity.

MANGANESE DEPOSIT.—A deposit of manganese ore 6ft. thick has recently been struck near Parkenstein, Bavaria, at a depth of about 120ft. An analysis which has been made of the ore shows it to contain 44 per cent. of metallic manganese.

RESIDUAL MANURE.

IT is pretty generally known to those concerned that readily manures are speedily assimilated by growing crops, and consequently under normal conditions very soon exercise a beneficial action of which they are capable; others again only available subsequent to a more or less extended process of detritation and oxidation, thus their influence may extend over several years. In either case, however, according to the *Mark Lane Express*, manifestly advisable that plants should be at hand to employ the nutriment provided as soon after application or elaboration as possible. At the same time, although, of course, fertilisers can only be considered to yield profitably when recovered in a crop, agriculturists are perfectly aware that no dressing is completely utilised by the produce they may raise, an excess over the actually required quantity being necessary for reasons sufficiently plain to require no explanation here superfluous.

Consequently we easily perceive that from more causes than there will exist even in ordinary years a residue of unabsorbed food in properly cultivated soils, and while such a fact must be important and receive our thoughtful attention, yet if wisely dealt with by suitable procedure need occasion us no concern on the score of undue waste or loss. But during seasons of drought, such as the present, this question of manure residues assumes a far more important aspect, the reduction to a minimum of the probable loss of nutriment expended on manures becoming a matter of the utmost moment. Rendering imperative the adoption of adequate protective measures because when moisture is not forthcoming by far the major part of any fertilising principles applied must remain unemployed in a greater or less degree as particular conditions of season and crop vary. The absence of water renders all types of manures practically inoperative, being true of such quickly available substances as nitrate of soda, sulphate of ammonia, etc., together with any soluble matters derived from materials furnishing their stores of nutriment more slowly. Evidently the portion remaining insoluble will be largely available for future use, but everything capable of dissolving under the influence of water must be washed into the subsoil and drains should heavy rain fall in the autumn and winter months, being therefore irrevocably lost unless we are able to effectually check the effects of this action it is too late.

Furthermore, some fertilisers, although not of a nature to be away in solution, may, so far as certain important constituents are concerned, through re-actions occurring in the soil, become less available, and thus, with lapse of time, prove less valuable. Assimilation had taken place shortly after application. Confirmed by the certainty, should it not be prevented, of further waste from causes in addition to the heavy losses incurred through deficient absorption, farmers naturally would be most anxious to use to the advantage whatever manures they have procured, even although the purpose served possesses an importance perhaps secondary to that originally intended. We certainly believe one of the best means for attaining so desirable an object is the plan of sowing some growing crop which, with the advent of late rain, will rapidly and safely conserve the costly elements of fertility, providing, over, an invaluable supply of keep for stock which this apparently is once more likely to prove a great desideratum. From such sources becomes available throughout the winter, when exceedingly useful, if properly carried out, ensilage system is employed, which to practical men of average ability should not present any serious difficulties, and were these, and certain other drawbacks so mentioned, twice as great, surely it would be extremely unwise to neglect any means of furnishing a supply of succulent fodder practically unaffected by weather and easily handled and distributed in the winter months.

It may be advisable to remark that while undoubtedly a great annoyance at losses due to these exceptionally dry seasons may be materially aggravated by the fact that fertilisers, for which we pay actual cash, are prevented from exerting any beneficial influence yet manifestly to attach blame to the manures themselves, or to say they were not worth procuring because poor results are obtained would be quite unreasonable. The just inference is that to ensure crops sufficient water is essential, and clearly means tending to promote its retention in our soil will, under ordinary circumstances, be an important service by enabling it to withstand prolonged drought successfully; therefore as humus or organic matter increases the properties, a view fully confirmed by the action of farmyard manure which supplies this ingredient liberally, we immediately realise the value of supplying organic matter to a soil, within reasonable limits, is a measure. Thus the roots and *stolons* of the quick-growing crops so mentioned will assist us to achieve, although of course constituting one of several methods whereby this object may be attained, and, therefore, that the plan recommended for avoiding waste of food is a very useful one and should be adopted whenever it seems desirable.

The Patent List.

is compiled from Official sources in the Manchester Laboratory, under the immediate supervision of Davis and Alfred R. Davis, who report professionally on Chemical Patents.

NOTATIONS FOR ENGLISH LETTERS PATENT.

Production of Oxides and Salts which are insoluble in electrolyte. C. Luckow. 14,801. August 6.
of Cyanogen. A. K. Huntington. 14,855. August 6.
of Carbon Bi-sulphide and Apparatus therefor. A. J. Holt. 14,912. August 7.
Size or Size, and Process for Manufacturing same. E. F. Feller. 14,936. August 7.
ool, etc. F. N. Turney. 14,978. August 8.
and Purification of Acetates and Acetic Acid. M. N. 15,004. August 9.
Preparation of Amalgams and their Utilization. E. and G. 15,024. August 9.
Cassium Cyanide and Furnaces for Producing Ammonium W. Schulte and F. A. Sapp. 15,040. August 9.
of Portland Cement. C. F. A. E. Hubertus Von Forell. 15,058.
s in Production of Cyanogen Compounds. A. Frank and 15,066. August 10.
of Cyanides. J. Pfeiffer. 15,116. August 10.
s in Electrolysing Apparatus. L. A. G. E. R. Comboul. August 10.

LISTS OF LATEST COMPLETE SPECIFICATIONS.

acts are specially prepared for the Chemical Trade Journal. RIGHTS of publication are RESERVED. This is the earliest facts of Chemical and allied patents accessible to the

s in Apparatus for Producing and Distributing Insecticide Defecting Solutions. J. J. Stott, Deansgate, Manchester. Eng. Pat. 17,511. July 19, 1894.

atus is very simple, merely consisting of a cylindrical which a perforated pipe, carrying four arms or paddles, l by hand. Water enters by the perforated pipe, becomes the disinfectant or insecticide and escapes through a e to a spraying nozzle. Two drawings show the charging ectional elevation and plan, and a third the spraying is a very simple device.

s in or connected with Machines or Mills for Grinding Colour, Paints, or other Materials. E. Bush, Dewsbury. Eng. Pat. 17,511. September 14, 1894.

ine is chiefly intended for grinding ink pigments, but is or paints, etc. It is a triple roll mill, driven by worm d of the rolls being different, thus giving a grinding motion. roller is hollow, and cooled by water circulating through an trolling valve. By a special arrangement of ploughs and the substance being ground is continually passed to the rollers and the ends kept clean, thus removing the constant attention on the part of an attendant. The kept cool, the pigment does not stick to the rolls or suffer drawings show the general arrangement.

s in the Manufacture of Soap and Glycerine. J. K. Hill, Cottage, Irvine, N.B. Eng. Pat. 17,860. September 20, 1894.

much of the cost, time, and wear and tear to plant, e concentration of soap leys for the recovery of glycerine, large amount of sodium chloride with which these leys an excess of caustic alkaline lye is proposed for the the soap, instead of salt. The excess alkali in the leys is nifying more fat or rosin until the excess is spent, and the centrated. Instead of using a caustic ley, solid caustic employed, which dissolves in the soap pan and effects a tion.

dition of Gold and Silver. E. Andreoli, 18, Somerleyton-road, Eng. Pat. 11,752. June 17, 1895.

o-deposition of gold or silver from solutions of potassium ected by means of a tank (with or without compartments) mercury cathode, and anodes of peroxidised lead. Seven w the construction of the tank, anodes, and partitions. A o partitions may be taken as a typical instance. The e porous, being constructed of any suitable material, ing given to kieselguhr porcelain, on account of its being y alkalies or potassium cyanide, while at the same time it w the diffusion of the cyanide. In the bottom of the

central compartment there is a thin layer of mercury. Into this compartment, as many perforated plates or pieces of wire netting, consisting of amalgated copper as is possible, are packed, their lower edges dipping into the mercury. The gold enters the tank at the bottom and escapes by an over-flow pipe at the top. In this way a very large surface of the mercurial cathode is exposed to, and enabled to act upon the gold solution. One perforated peroxidised lead anode is employed for every 15 or 20 cathodes.

SCENTED OILS.

CONTINENTAL perfumers employ three different processes for preparing these oils. They are as under:—

1. A sufficient quantity of the essential oil of the plant, or of the concentrated essence of the substance, if it does not furnish an oil, is added to the fixed oil which it is desired to perfume, until the latter becomes agreeably fragrant; the whole is then allowed to repose for a few days, and, if any sediment falls (which should not be the case when the ingredients are pure), the clear portion is decanted into another bottle. When alcoholic essences are thus employed, the fixed oil should be gently warmed, and the admixture made in a strong bottle, so as to permit of its being corked and well agitated with safety; and in this case the agitation should be prolonged until the whole has become quite cold. In this way all the ordinary aromatised and perfumed oils of the English druggists and perfumers, as those of bergamotte, cassia, cloves, lavender, lemon, millefleurs, neroli, nutmeg, oranges, roses, etc., are made, but those of a few of the more delicate flowers, and of certain other substances, can only be prepared of the first quality by one or other of the processes described below.

2. (By infusion.) Dry substances, after being reduced to powder, or sliced very small—flowers or petals, after being carefully selected, and picked from the stems and other scentless portions—and soft or unctuous matters, as ambergris, civet, or musk, after being rubbed to a paste with a little oil, either with or without the addition of about twice their weight of clean sand or powdered glass, to facilitate the reduction, are digested in the fixed oil for about one hour, at a gentle heat obtained by means of a water bath, continual stirring being employed all the time; the mixture is then removed from the heat, covered up, and left to settle until the next day, when the clear portion is decanted into clean bottles. When flowers are employed, the free oil is drained off, and the remainder obtained by the action of a press. The process is then repeated with fresh flowers, five or six times, or even oftener, until the oil is sufficiently perfumed. For ambergris, musk, or civet, the digestion is generally continued for fifteen to twenty days, during which time the vessel is either freely exposed to the sunshine, or kept in an equally warm situation.

3. (By h flowers.)—a. Upon an iron frame a piece of white, spongy cotton cloth is stretched, and then moistened with almond or olive oil, usually the latter; on the cloth is placed a thin layer of the fresh-plucked flowers; another frame is similarly treated, and in this way a pile of them is made. In twenty-four or thirty hours the flowers are replaced by fresh ones, and this is repeated every day or every other day, until seven or eight different lots of flowers have been consumed, or the oil is sufficiently loaded with their odour. The oil is then obtained from the cotton cloth by powerful pressure, and is placed aside in bottles to settle, ready to be decanted into others for sale. Sometimes thin layers of cotton wool, slightly moistened with oil, are employed instead of cotton cloth.

The oils of honeysuckle, jasmin, jonquil, may-blossom, myrtle-blossom, narcissus, tuberose, violet, and, in general, of all the more delicate flowers, are prepared in the above manner.

b. The native perfumers of India prepare their scented oils of bela, chumbul, jasmin, &c., in the following manner:—A layer of the scented flowers, about 4 inches thick and 2 feet square, is formed on the ground; over this is placed a layer of moistened tel or sesamum seeds, 2 inches thick, and on this another 4-inch layer of flowers. Over the whole a sheet is thrown, which is kept pressed down by weights attached round the edges. The flowers are replaced with fresh ones after the lapse of twenty-four hours, and the process is repeated a third and even a fourth time, when a very highly scented oil is desired. The swollen sesamum seeds, rendered fragrant by contact with the flowers, are then submitted to the action of the press, by which their bland oil is obtained strongly impregnated with the aroma of the flowers. The expressed oil is then set aside in dubbers (bottles made of untanned hides) to settle.

c. The flowers are crushed in a mortar or mill, with one half their weight of blanched sweet almonds, and the next day the mass is gently heated and submitted to the action of a powerful press; the liquid thus obtained is allowed to repose for a week, when the upper portion of oil is decanted and filtered. This plan is occasionally adopted in this country for the oils of roses and a few other flowers.

THE STATE OF THE CHEMICAL TRADES.

IN the Wear and Tyne district the chemical trade is bad; while lead works are fully occupied, cement works dull; while at Durham the coke trade is the same as last reported. About Middlesbrough the salt industry is satisfactorily active. Bleaching and finishing works at Bury have also been busier. At Winsford the salt trade is no worse, but still far from satisfactory. There has been a slight improvement in the chemical trade at Middlewich. In Hull and neighbourhood there has been rather more doing in the seed crushing mills, while the paint and colour works have been moderately busy. The same may be said of the chemical trade in the Leicester and Northampton district. At Wolverhampton the electrical trades are busy, and the oil, colour, and varnish makers fully occupied. Copper smelting and chemical trades are rather quiet in the Swansea district, but the fuel industry is steady.

A contributor to the "Manchester Guardian," speaking of the alkali trade, says:—"The Board of Trade returns just published, though in many respects most instructive, tell the same dismal story concerning the chemical trade as they have done for months past—increased bulk, but lower prices. The comparison with last year's rates is highly suggestive. The low prices prevailing in ammonia-alkali and soda ash have induced the largest manufacturers to buy up some of the smaller works and to control the sale of the products of others. With a view to providing a further remedy, if possible, it is stated that the production will be regulated according to the required consumption, so that over-production, competition, and unremunerative prices shall cease. Negotiations are pending with Le Blanc makers of soda ash and bleaching powder to prevent the undue "cutting" of prices by continental makers for the American market, and are expected to come into force before sales are made for next year's contracts, for which there are numerous inquiries now in the market. Scarcely any bleachers, soap-makers, or other consumers appear to have been able to buy for forward delivery on account of the strong feeling amongst manufacturers that prices will somewhat improve. Salt cake is in better demand, though still under cost; but glass-makers are beginning to look into their requirements ahead, having had better trade since the late strike."

TIPS FOR TRADERS.

THE chief industry of Turk's Island is the production of salt from sea-water. The salt pond requires careful and constant watching, and is not such a simple process as it sounds. An unseasonable spell of rain will work great disaster at the critical time of "making." Despite the cheapness of salt there is a fair profit to be made, and the industry is worthy the attention of practical persons with capital.

BRICK-MAKING appears to be one of the few industries under English control doing well in Austria.

PETROLEUM can only be worked in Roumania under certain regulations, in accordance with which concessions are granted for seeking and working petroliferous grounds.

CHEMICAL INDUSTRY forms one of the sections of the Industrial Exhibition that is to be held from May to October, 1896, at Treptow Park, Berlin. Sections will also be devoted to Applied Electricity, the Paper Industry, and Hygiene.

TARIFF CHANGES.

There are from time to time many alterations in the Customs regulations abroad, which it is well for those trading in chemicals, oils, paints, and raw materials to be acquainted with. The following are some of the most recent changes of interest to the foregoing:—

FERTILIZERS, under the new Belgian and Norwegian Commercial Treaty, are to be admitted free of any duty.

CANDLES (Stearic) are subject to a duty of 13 öre per kilog.

FISH OIL and Wood Pulp from Norway into Belgium will also be admitted free.

VASELINE, when imported into Switzerland, will be dutiable as follows:—Raw (not purified mineral fat) or purified in boxes, up to 10 kilogs., each 10 francs. Purified in barrels or boxes, over 10 kilogs., 1 franc each. Raw, in barrels or boxes over 10 kilogs., 10 centimes each.

SODIUM and POTASSIUM SILICATES, under recent changes in the Spanish customs regulations, are now subject to an increased duty, which varies from 3 pesetas 80 to 4 pesetas 55 per 100 kilogrammes.

MINERAL COLOURS (not liquid), such as red and white litharge, &c., will, under certain proposed changes in the tariff, be admitted free of duty.

GROUND ASBESTOS ROCK is dutiable at 20% *ad val.* as mineral asbestos, under the U.S.A. tariff.

CRYSTAL CARBONATE is also subject to a duty of 25% *ad val.*

SALT imported into Brazil will in future be charged double imposed in the law of December 30, 1891.

CARBON DISULPHIDE is to have the duty reduced, however.

DYNAMITE, gun-cotton, nitroglycerine, and fulminates imported into Cyprus except through the port of Larnaca, then a special permit must be obtained from the High Commissioner.

PETROLEUM (crude), when admitted into British Guiana in sanction of the Governor in Council, will be dutiable at 0/0 per gallon. This change overrides all paragraphs referring to petroleum, whether generally or specifically classified in the abstracted in the *Journal*, No. 396, p. 384.

CHEAP TOILET SOAPS.

ORDINARY toilet soaps are in frequent demand where the population consists largely of working men, who want a large piece for little money, that lathers quickly and has a little of alkali which readily removes dirt. In buying they look for not too loud colour, and a rather strong perfume. Such soap lathers easily enough and requires very little room or capital to make and leaves a profit in spite of the apparently low price.

The soaps now under consideration are sometimes made by the warm process, which is also used for the grades of transparent soaps that are readily bought on account of their nice appearance, although they lather less readily and do not dirt as quickly as do cocoanut soaps.

Taking the cold made article first, a solution which is "filling lye" is prepared, and which preferably contains more sugar.

The following are several formulae for same:—120 lbs. water, 12 lbs. salt, 6 lbs. sal soda, 20 lbs. sugar; or 160 lbs. 20 lbs. potash, 10 lbs. salt, 10 lbs. potassium chloride, 25 lbs. sugar; or 125 lbs. water, 21 lbs. potash, 15 lbs. salt, 18 lbs. sugar.

All these fillings are equally good, and made by warming the water and dissolving in it the potash, then the salt, and then the sugar. When all has been dissolved, with the assistance of a crutch solution is left alone until it has become clear and cold; the crutch is then taken off, and the filling is ready for use. It should be at 42° to 44° Tw.

To make a cocoanut soap with such filling, the cocoanut oil is melted at 80°F. in summer, and at 100°F. in winter; the lye is cut according to the well-known manner, and when the mixture has thickened the filling is added in a thin stream. When it is well mixed, the mass will thicken again, and is then ready for use. Colour and perfume are in these cases best added to the oil, to avoid uneven division and streaks. As filled cocoanut oil soap may be too hot, it is best to frame in flat iron boxes of 150-200 lbs. capacity when the soap has cooled off, the boxes are simply turned upside down and the soap will fall out. The boxes are easily cleaned, and there is no trouble in the matter of adjustment, soap sticking in corners, &c.

The quantity of the filling added depends entirely on the quality and keeping property of the soap, for good cocoanut stand as much as 100 per cent. filling; but with such a filling the portion the filling is added in two or three portions and a little lye than ordinarily is employed. The following are examples:

Cocoanut oil	50	50	50	lbs.
Soda lye, 72° Tw.	25	26	27	1/2 lbs.
Filling	15	30	50	lbs.

Soaps made after the above formulae are ready to be pressed the second day, and have a good appearance; but of course they shrink somewhat in time, more or less according to the proportion of filling. To protect them against this an addition of some talc is made. Thus the following compositions are suggested:

Cocoanut oil	50	50	50	lbs.
Lye, 72° Tw.	25	25	26	1/2 lbs.
Filling	8	25	25	1/2 lbs.
Silicate	8	10	—	1/2 lbs.
Potash lye, 72° Tw.	2	3	—	3 lbs.
Talc	—	—	15	1/2 lbs.

c, it is stirred into a part of the oil, run through a fine well into the stock, and the lye then added. These very little, are washed away slowly, and, if well pressed, ce, bright appearance. Talc, however, makes uncoloured ice is used only in coloured goods. (Such soap, containing cent. talc, is much in demand for exportation to East

s difficulty in soap filled with talc and silicate, that the cult to remelt; for that reason they are best worked up led Mosaic soaps.

may also be considered the sand soap used by workmen rty work, as in coal mines, etc. for the same is:—50 lbs. cocoanut oil, 50 lbs. sand, e 72° Tw., 10 lbs. silicate mixed with 2 lbs. lye, 20 lbs.

d is mixed with the oil before running in the lye; there ger of separation, which might occur if the sand were

Trade Notes.

PUMPING BILL.—In the House of Commons, on the T. W. Russell, the Brine Pumping (Compensation for rovisional Order Bill was read the first, second, and third House of Lords the Bill has been read twice.

COVERY BY THE M'ARTHUR PROCESS.—During July gold have been recovered at the Rand and 7,000 oz. in ; total, 64,500 oz. by means of the M'Arthur-Forrest s. The June total was 63,380 oz.

BASE OF MURGATROYD'S WORKS.—In connection with of these works by Messrs. Brunner, Mond and Co., atter firm has only acquired the lands and works as far as ion of the business is concerned. They have purchased the salt works or salt business.

INE INDUSTRY.—Several rumours have been current ffect that the aniline dye trade is likely to be disturbed by which is to be worked in conjunction by the Badische da Fabrik and Friedr. Bayer and Co. A reduction of e of the dyestuffs belonging to this group will, it is hoped, ed for by an increase of the consumption in branches of hich the particular dyes referred to have not been pre-

SH WHITE LEAD COMPANY, LD.—It will have been week's issue that this company has been reconstructed, mpany is therefore undergoing voluntary liquidation. It learn that owing to the great demand for the company's ngements have recently been made for considerably in- manufacture, thereby involving reconstruction on a larger arrangements, which are now completed, will doubtless e relations already established between the company and

viâ THE SHIP CANAL.—In addition to several other nches of traffic that have become established on the Ship is now every appearance that the direct importation of the city will soon be very large. The number of houses d for the extract of dyes in this portion of Lancashire is The barque *Wone* is now lying in the Mersey with about wood on board from Jamaica, which she will discharge t. Several large barques are also on passage from Yucatan of logwood, and the *Scotia* is expected to arrive in the from Belize. During the season a considerable amount is to the city by coasting steamers from London.

Consul Cottrell, writing from Syra concerning the emery axos, says that the period in which the exploitation of for purposes connected with the manufacturing industries with precision, but according to tradition it cannot have two centuries and a half ago. The existence of emery, its inherent properties of subduing hard metals, sharpen- lements and weapons, and polishing steel and iron, were he ancients, to whom the subsequent generations are he numerous advantages derived by the application of o the industrial arts. The mineral occurs in lenticular calcareous rock, superposed on layers of schist. These oic rocks originally contained the substances from which oduced in the course of centuries by the combined action and metamorphism, which action is testified by crystalliza- in the passage of limestone into saccharoidal marble, with land abounds, and of silicious clays into schists. The quality naturally depends on the proportions of the various

THE MILNQUARTER CHEMICAL CO.—This firm has recently intro- duced a new substance for use as a hearthstone that will not rub or wash off easily. Four colours are made, viz., white, buff, blue, and red. It is put up in large packets, and retailed at one penny. Inquiries should be made to the company at their offices, Bonnybridge, N.B.

OBITUARY.—It is with regret that we have to record the death of Mr. James Leathart, who for so many years has been the manager of Messrs. Locke, Blackett, and Co.'s lead works. At the age of 16 he joined this firm, and subsequently worked his way to the managership, which post he held till 1891. After that time he acted as managing director, the company having been converted into a limited liability.

A RUST PREVENTING PAINT.—According to a contemporary, im- provements have been made by MM. Kolher and Naphtali in the pro- duction of paints suitable for coating iron and other surfaces. They subject the tar obtained in the production of oil gas to fractional dis- tillation up to a temperature of 250° C., when about 11'35 per cent. will have distilled over. The remaining 88'65 per cent. forms a glossy black mass, having the consistency of honey, and a specific gravity greater than that of water. It is dissolved by the aid of heat in about half its weight of volatile hydrocarbons, such as benzene and the like, and a paint is thus obtained which dries very rapidly, adheres well, and does not crack or fall off. It is claimed for it that it will penetrate through iron rust, and prevent further oxidation of the iron. Manganese or lead dryers may be added, if desired.

FAILURE OF AN ASBESTOS MANUFACTURER.—The London Official Receiver has issued a statement of the affairs of H. S. Pringle, an asbestos manufacturer, trading as Pringle and Co., at St. Leonard's Works, Three Mills Lane, Bromley-by-Bow. The accounts show liabilities £12,170, of which £7,628 is expected to rank, and assets £10,707. The bankrupt states that in 1875 he and a partner, after carrying on business as colliery proprietors, filed in the County Court at Newcastle-on-Tyne a petition for the liquidation of their affairs by arrangement, with liabilities about £20,000. The bankrupt does not know whether any dividend was paid, but he obtained his discharge in the following year. In January, 1893, having then £250 capital, he purchased for £100 his present business, which he has since carried on. The bankrupt asserts that he is not insolvent, and attributes his present failure to pressure by the holders of certain accommodation bills.

MANCHESTER PORT SANITARY AUTHORITY.—At the last meet- ing of the Runcorn Rural District Council, on Tuesday, an intimation was received from the Local Government Board to the effect that after considering the report of Dr. Bruce Lowe on certain circumstances connected with the Manchester Ship Canal, they were of opinion that arrangements should be made for an investigation of the proposal that a joint board be constituted to act as the port sanitary authority for the Customs port of Manchester. It appeared to the Local Government Board that it would be necessary for such a port sanitary authority to come to some arrangement with the Port Sanitary Authority of Liver- pool with a view to dealing with infected ships arriving in the Mersey and intending to pass into the Ship Canal, and also with ships on board which cholera might arise after they had passed into the canal. The Local Government Board suggested that a conference of representatives of all the riparian authorities on the banks of the Ship Canal should be held, in order to discuss the question generally, and stated that the authorities concerned had been written to to this effect. After some dis- cussion the subject was referred to a special committee.

THE MERSEY SALT SHIPMENTS.—The shipments during July show a very welcome improvement, in which almost every market par- ticipated. The shipments during July showed an increase to every country except to Africa, to which place the total export is little more than half what it was in July, 1894. Taking the aggregate up to date, however, there is a slight increase in the exports to the country. The shipments of salt to the United States for July show a slight increase, but the shipments for the year up to date are more than double those for the corresponding period of 1894. The trade in salt with British North America is fairly steady, there being an increase on the month's returns, but a slight decrease on the returns for the year to date. The exports to Central and South America, Australasia and the Pacific Islands, and other ports in the United Kingdom all show increases both for July and the whole seven months. There is not much change in the other markets, beyond a certain amount of fluctuation, which is always a factor to be taken into consideration. The total shipments from the Mersey for July amounted to 76,170 tons, against 59,031 in July, 1894. Of this 50,812 tons were shipped from Liverpool, com- pared with 39,244 in July, 1894. The shipments for the first seven months of 1895 amounted to 341,602 tons, compared with 375,203 for the same period of 1894. Liverpool's shipments were 258,849 tons, compared with 299,718 for the first seven months of 1894, the balance in each case being shipped from Runcorn and Weston.

FARBWERKE MUHLHEIM VOR. LEONHARDT AND CO.—This firm announces that they have reduced the prices of their Acridine oranges and patent G. and G.G. Pyronine. The oranges are suitable for the dyeing and printing of cotton, also for the dyeing of silk, through their being fast to water and soap, whilst they can also be specially recommended for the dyeing of leather. Pyronine, as is well known, produces a most brilliant blueish red, dyeing cotton mordanted with tannic acid and tartar emetic in the usual way under addition of $3\frac{1}{4}$ oz. of alum to 10 gallons of dye bath. Compared with other dyestuffs of similar shade it is superior to them in fastness to light and washing, as regards both dyeing and printing on cotton.

FRENCH BEET AND SUGAR PRODUCTION.—During 1892 and 1894, in 367 factories there has been used 7,138,000 tons of beet root, being 1,817,000 tons more than was used in the preceding year. The total quantity of sugar produced has been 661,440 tons, which is 179,966 tons more than in 1894. The quality of beetroots used varied very little from that of last year, whilst the result of the comparison of the average density of the roots is as follows. (These figures are the averages furnished by statements made in the laboratories of the Administration):—

Departments.	1892.	1893.	1894.
Aisne	6.9	7.1	7.2
Ardenne	6.8	7.1	7.2
Nord	7.0	7.3	6.8
Oise	6.8	7.1	7.1
Pas-de-Calais ..	6.8	7.1	6.8
Seine-et-Marne ..	7.2	7.6	7.6
Seine-et-Oise ..	6.8	7.4	7.1
Somme	6.9	7.1	7.0
Other Departments ..	7.0	7.1	7.6
Averages	6.9	7.2	7.2

—Journal Official.

GOLD PRODUCTION.—The following are some working results for July: Wemmer: 6,800 tons crushed, yielding 4,898 oz.; 50 stamps working 29 days; and from cyanide plant 4,750 tons treated, yielding 1,533 oz. of gold; 210 tons of concentrates caught, assaying 100 dwt. (5 oz.). Ferreira: Tons crushed, 4,519; bar gold extracted, 4,768 oz.; concentrates caught, 165 tons; assay value of concentrates, 6 oz. 15 dwt. fine gold per ton. Cyanide works—Bullion produced from tailings, 1,199 oz. Henry Nourse: Crushing for July, 29 days; 4,994 tons produced 3,039 oz.; cyanide works, 3,960 tons produced 1,460 oz.; 25-stamp mill clean-up produced 62 oz.; total, 4,561 oz. Champ d'Or: During the month of July mill worked 30 days; crushed 5,800 tons, yielding 3,000 oz.; cyanide, 4,800 tons, yielding 920 oz.; total, 3,920 oz. Eastleigh: 50 stamps, running 31 days, crushed 4,522 tons, yielding 598 oz. gold; cyanide treated, 4,115 tons, yielding 1,314 oz. gold; total, 1,912 oz. Simmer and Jack: Crushed 11,850 tons, obtained 5,249 oz. of gold from mill—621 oz. of gold by chlorination and 1,042 oz. of gold from tailings by cyanide. New Rietfontein Estate: During July crushed 3,976 tons, obtained 1,483 oz. gold; cyanide works treated 3,600 tons, yielding 682 oz.; concentrates treated yielded 70 oz.; total, 2,235 oz.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are dull, without any change in prices. Carboic acids are about the same as last week, with, if anything, a tendency towards increased firmness in 40% crystals. Naphthas are weak, crude now offering at 5d., and solvent at 11d. to 1s. Creosote unaltered. Pitch at the moment is firm for both spot and forward at 38s., f.o.b. East Coast.

Sulphate of ammonia is slightly firmer, particularly in the North. The market generally, however, has been rather uncertain, and no business of any magnitude has been reported at current values. London outside makes are quoted £9. 5s., Liverpool £9. 7s. 6d., Hull £9. 5s. to £9. 6s. 3d., and Leith £9. 7s. 6d. Nitrate quiet.

REPORT ON MANURE MATERIAL.

There has been a quiet market, and prices remain very much as last reported. The quotation for 75/80% Florida Phosphate Rock remains 6½d. per unit c.i.f. to good United Kingdom ports, and it is understood that the parity of this price has been paid in large lines for the continent. More than two-thirds of the mines are now closed, the price being unremunerative, and there is not the same pressure to sell this grade that there was a month or two ago. Quotations for Peace River, South Carolina, and Algerian Rocks are unchanged. River Plate bones have been sold at £4. 5s. per ton, and that is about the value of cargoes of handy size. Crushed East Indian bones offer at

£4. 2s. 6d. per ton for autumn shipments, and bone meal at £4 per ton, ex quay, but buyers don't respond at these prices. Nil of soda is unchanged, there being very little doing in any port. On spot ordinary quality may be had at 8s. 1½d. per cwt., fine at 8s. 3d. Autumn shipments are worth about 8s. 1½d. cwt.

HULL PAINT, OIL, AND COLOUR REPORT

TUESDAY

OILS.—The markets show some tendency to fall, and holidays to be the order of the day. The principal imports adjusted to, and compared with the same time a year ago, are:—Linseed, 337 qrs., against 304,017 qrs.; rapeseed, 95,661 qrs., against 72,231 qrs.; cottonseed, 114,856 tons, against 126,493 tons; olive oil, 8,485 casks against 15,454 casks; rape oil, 5,411 casks, against 5,052 casks; cakes, 2,046 tons, against 4,398 tons; tallow, 8,629 cwt., against 16,566 cwt.; bones, 2,046 tons, against 4,398 tons; turpentine, 11 bbls., against 13,013 bbls. Linseed oil 5s. per ton lower, closing sellers at 20s. 6d. spot; month, 20s. 4½d.; September-December 19s. 6d. to 19s. 4½d.; and January-April, 19s. 3d. sellers; and refined, £1. 10s. to £2. per ton extra. Export for the 1,780 cwt. Refined cotton oil dull, at 15s. 9d. naked 1 August-October offer at 16s., and November-April 16s. 1½d. C 14s. naked spot; casks, 17s. 6d.; and ordinary barrels, 27s. 6d. ton extra. Tallow unchanged. Spirits of turpentine, 21s. 3d. oil from £31. to £35. Siccative oil from £13. per ton. Liquid from £14 per ton. Wool oil from £13. 10s. per ton.

CAKES.—Linseed cakes quiet: 95% pure, £6. 7s. 6d.; Russian 5. 17s. 6d. to £6. Oil cakes, £5. 10s. Cotton cakes very best makes, £4. 2s. 6d. to £4. 5s.; seconds, £3. 17s. 6d. Rape Black Sea, £2. 12s. 6d.; East Indian, £3. 7s. 6d.; feeding, £4.

PAINTS.—Makers continue very active. Prices are: Black, yellow, blue, yellow ochre, venetian red, and oxide of iron paints from 1 per ton. Dry colours: Venetian red from £4. Yellow ochre £3. 15s. Red and white leads unchanged. Paint remover, 23 30s. per cwt. Imperial black varnish, £5. 10s. per ton. Oak var from 5s. 6d. per gallon.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali market the situation, generally, is unchanged. There is a fair demand all round for export, but for the home market there is somewhat dull. Bleaching powder selling on the spot, f.o.b. hardware at £7. 5s. to £7. 7s. 6d. per ton; softwood, on rails, £7. per ton. The price for 1896 is quoted £6. 17s. 6d. to £7. f.o.r.; caustic prompt and forward, is without change, and spot quotations as follow:—F.o.b. Liverpool, 77%, £9. 7s. 6d.; 74%, £8. 7s. 70%, £7. 10s.; 60%, £6. 10s., 10 ton lots and upw Ammonia alkali still quoted at £2. 17s. 6d. bags, f.o.r., and the price is taken for future delivery. For the present, the export advance in price has not been realised. Bicarbonate of soda is in good request, and price is firm. Soda crystals quiet. There is change in the market for sulphur in any quality; best is selling £3. 12s. 6d., f.o.r. makers' works. Saltcake is firmer. Leblanc ash nominally 1d. per degree f.o.b. Chlorate of potash, Chlorate of soda, 6½d. Sulphate of copper is still maintained a recent advance, £16. 5s. to £16. 10s. being the quotations for and early delivery. White powdered arsenic firm at £15. to £15 per ton. Potash, caustic and carbonate, of best qualities, are steady value. Murate and sulphate of potash are also held firm. Pot of potash, 7½d. to 7¾d. per lb. Prussiate of soda, 6½d. B acetate of lime still offering at £5. 5s. to £5. 7s. 6d. c.i.f. V sugar of lead quiet in demand. Other acetates unchanged. A acid, 40%, 9s. to 9s. 6d. per cwt., at usual points of delivery Ammonia salts are, generally, more scarce, and rather inclining advance in price.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY

OILS.—Palm Oil is firm in price, but there is not much doing either position. Olive is steady, and moving satisfactorily at £32. to £32. 10s. per tun, according to source and quality. Linseed is especially Liverpool makes, which are offered by sellers at 22s. 3 23s. per cwt. Cottonseed is steady, but rather dull. Live refined 17s. 6d. to 18s., and American 17s. 6d. per cwt. Castor firm, with a slightly improved inquiry. Good seconds Calcutta 1 to 2½d., and first pressure French 2½d. to 2¾d. Tallow is steady with a rather better demand. Resin is steady both as regards and demand. There is no change in spirits of turpentine, which firm at 21s. per cwt. Petroleum easier, without change in quotation American standing at 6½d. to 8½d., and Russian refined 6d. gallon.

LOURS are steady, without alteration in prices. s: Oxfordshire, common, £10., medium, £12., best, £15. shire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: sh quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead nged. Venetian red, £6. to £10. Cobalt: Prepared oxide, l.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, . Oxide of iron: Common, £7.; medium, £10.; finest, £20. oxide, £22. 10s. to £25.

THE METAL MARKETS.

NDON, WEDNESDAY.—Pig iron, dull: Scotch warrants closed 5½d.; Middlesbrough, 37s. 7d. cash, and hematite, 46s. 5½d. r, firm: Chili bars, G. O. B.'s and G. M. B.'s, closed at 2s. 6d. to £47. 7s. 6d. cash, and £47. 10s. to £47. 15s. months. Tin, firm: Straits closed at £64. 2s. 6d. to 12s. 6d. cash, and £64. 10s. to £65. three months; Australian, 2s. 6d.; English ingots, £67. 10s. Lead: Spanish, 17s. 6d.; English, £11. 2s. 6d.; Silesian spelter, ordinary, 7s. 6d. Nickel, 1s. 1½d. Antimony, £31. 10s. Quicksilver: ands, £7. 5s.; second hands, £7. 3s. 6d. Copper shares, steady: 2¼ to 2½; Copiapo, 2½ to 2¾; Libiola, 4½ to 5; Mason larry, 2½ to 3½; Rio Tinto, 18½ to 18¾; Tharsis, 5½ to 5¾. ASGOW, WEDNESDAY.—Market strong, with large business. done at 46s. 4½d., 46s. 4d., and 46s. 6d. cash, also at d., 46s. 6½d., and 46s. 8d. one month; closing with buyers at ½d. cash, sellers ask 46s. 6d. Cleveland done at 37s. 6½d. also at 37s. 9d., and 37s. 9½d. one month; closing with buyers at d. cash, sellers ask 37s. 7½d. Cumberland hematite done at ½d. cash, also at 46s. 10d. and 46s. 7½d. one month; closing uyers at 46s. 5½d. cash, sellers ask 46s. 6d. Middlesbrough ite closes with buyers at 44s. 4½d. cash, sellers ask 44s. 7½d.

LIVERPOOL MINERAL MARKET.

improvement mentioned last week still continues. Manganese ng, with addition in prices. Ground manganese still continues at £6., £8., £10., and £12. 10s. per ton, according to quality. aniferous iron ore has followed manganese ore, and has improved a 1s. per ton. Bauxite is in very strong demand for both chemical uminium metal purposes; prices being firm at 20s. per ton for first r, 16s. 9d. per ton for second quality, and 12s. per ton for third r, f.o.b., in cargoes. Chrome ore: Arrivals are slow, with good d at full prices, namely, 70s. per ton for 40% ore and 110s. to per ton for prime 50% ore. French chalk is in strong demand, pot stocks have been rapidly cleared, prices remain firm at 75s., 85s. to 90s., and 100s. to 110s. per ton for "Angel White". Plumbago firm, with good demand at £6. to £8. 10s. per ton. am and scheelite: These articles have improved considerably. 's earth is in fair demand at full prices. Arsenic firm at £16. 5. 10s. per ton. Umbers and ochres meet with fair demand at red prices; prime umber being done at 40s. per ton, and qualities in proportion, according to grade.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

re is some recovery to record as regards sulphate of ammonia, now stands at from £9. 6s. 3d. to £9. 7s. 6d. f.o.b. Leith, with, er, nothing as yet moving on the basis of forward supply. The of Continental consumers remain unaffected, their forecast, as, being a still lower position for the article on the market, despite efforts and precautions of the makers. The only other change of on calling for note is that of chlorate of potash, which is slightly . Sulphate of copper is firm, at the rise. Dye chemicals are in quest, and the combination prices of bichromate of potash and mate of soda are well held, at the figures now so long ruling. ineral oil companies are booking forward supplies of their burn- leisurely, but steadily, at the advance of 2d. per gallon over last figures. Other paraffins in fair request.

ef prices current are:—Soda crystals, 35s. nett, Tyne; ash, 48/56°, £3. 15s. to £4. 10s. nett, Tyne; white alkali, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett, ow; caustic soda, white, 74° £9., 70/72° £7. 15s., 60/62° 5s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching r, £6. 5s. to £7., nett, Tyne; saltcake, 15s.; borax, English l, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; mate of potash, 4½d. nett, for Scotch and English deliveries (for

export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¼d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 4½d. less 5%, Liverpool; nitrate of soda, 8s. to 8s. 4½d.; sulphate of ammonia, £9. 6s. 3d. to £9. 7s. 6d. prompt, f.o.b. Leith; salammoniack, first and second white, £39. and £37. nett, any port; sulphate of copper, £16. 15s., less 5%, Liverpool; paraffin scale, hard, 2½d.; and soft, 1½d. to 2½d. per lb.; paraffin wax 120° semi-refined, 2½d. to 2¾d.; paraffin spirit (naphtha), 8d. per gallon; paraffin oil (burning), No. 1 6½d., and crystal 6¾d., at works, for Scotch buyers (English sales about 1d. lower); ditto (lubricating) 865°, £4. 5s. to £4. 10s.; 885° £4. 15s. to £5., and 890/895° £5. to £6. Week's sugar imports at Greenock were 8,300 bags unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

There is very little fresh to report in the chemical trade. Shipments continue fairly good, and prices are without alteration. Bleach is in somewhat better demand. Soda crystals, £1. 17s. 6d. per ton. Locally 76/77% caustic, £9. 10s.; 70%, £7. 10s. to £7. 15s. Sulphur scarce at £3. 17s. 6d. per ton.

Bleaching powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton, nett; caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; soda ash, 48%, £3. 15s. per ton, nett; do., 52%, £4. 2s. 6d. per ton, nett; do., 56%, £4. 10s. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 15s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. per ton, nett; do., 1 cwt. kegs, £6. 15s.; per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £1. 17s. 6d. per ton, gross weight; do., 2 cwt. bags, £1. 17s. 6d. per ton, nett; chlorate of potash, 5½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton; nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

SALT.—South Durham salt is selling freely at 9s. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—Trade is fairly steady, and the improvement in Northumbrian steam coal is still maintained. Quotations to-day are as under:—Best Northumbrian steam, 9s. to 9s. 3d. per ton; second qualities ditto, 8s. to 8s. 3d. per ton; small steam, 3s. to 3s. 6d. per ton; bunker coals, 6s. 6d. to 7s. 6d. per ton; gas coals, in better demand, 6s. 3d. to 6s. 6d. per ton; coke is generally steady, 13s. to 13s. 6d. per ton.

New Companies.

Fowler's Patent Night-Light Co., Ltd.—CAPITAL £12,000., in £1. shares, of which 7,000 are preference. This company has been formed to acquire and work the patents of Messrs. G. C. and M. B. Fowler, for the manufacture of candles and night-lights. The subscribers to the memorandum of association are:—F. J. Smith, 17B, Great George-street, S.W., architect; H. Young, Trafalgar-square, Chelsea, engineer; D. Charteris, Kentfield Lodge, East Putney, contractor; H. J. Mannering, Hazelwood, Forest Hill, engineer; W. J. Deighton, 78, King William-street, E.C., tailor; T. Charteris, Kentfield Lodge, Putney, contractor; H. Y. Young, Bexhill, Sussex, engineer.

Francis Thoday and Co., Ltd.—CAPITAL £25,000., in shares of £5. each. This company has been formed to carry on the business of cement manufacturers, brick and tile makers, builders and contractors, etc. The subscribers to the memorandum of association are:—F. Thoday, Cambridge, builder; H. S. Thoday, Cambridge, builder; W. C. Gibbs, Lyndewoode-road, Cambridge, clerk; J. J. Garner, 99, Victoria-road, Chesterton, Cambs., foreman; A. Negus, 251, Mill-road, Cambridge, foreman; E. Woolfenden, 245, Mill-road, Cambridge, foreman; J. H. Friend, 31, Lyndewoode-road, Cambridge, clerk.

Mount Gabriel Barytes and Umber Co., Ltd.—CAPITAL £10,000., in shares of £5. each. This company has been formed to acquire the mines, etc., of Sir R. West, at Mount Gabriel and other places in the county of Cork, Ireland, and to work and develop the same. The subscribers to the memorandum of association are:—E. H. Pearce, 50, Fenchurch-street, E.C., merchant; G. Threlfall, 50, Fenchurch-street, E.C., engineer; C. Nash, 10, Norfolk-street, Strand, solicitor; C. O. S. Cave, Schull, co. Cork, mine manager; N. Leigh, 10, Norfolk-street, Strand, solicitor; G. Neill, 50, Fenchurch-street, E.C., solicitor; H. G. Campion, 23, Old Broad-street, E.C., solicitor.

Gazette Notices.

PARTNERSHIP DISSOLVED.

C. M. HORNIBROOK and H. H. GATES, drug, mica, charcoal, etc., grinders, Victoria Steam Mills, Fairclough-street, Backchurch-lane, Commercial-road, E., under the style of Gates and Hornibrook.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.
H. GREEN, Birmingham, drysalter.

Adjudication.

CROWTHER, R., Brighthouse, late partner in the firm of W. Savory & Co., Brighthouse, drysalter.

IMPORTS OF CHEMICAL PRODUCTS

AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending August 10th.

Acetic Acid—			
Holland, 20 pkgs.	H. Wallace & Co		
" 22	A. & M. Zimmermann		
" 4	Beresford & Co.		
Alkali—			
Belgium, 240 c.	Armati & Harrison		
Alum—			
Holland, 28 pkgs.	R. W. Greeff & Co.		
" 18	W. G. Taylor & Co.		
Belgium, 25 cks.	R. W. Greeff & Co.		
Holland, 60 170	Oblenschlager Brs.		
Aluminium—			
Belgium, £1,500	Major & Field		
Antimony—			
Sydney, 15 t.	Vivian, Younger & Co.		
Antimony Ore—			
Belgium, 8 t.	Kaltenbach & Schmitz		
Portugal, 45	J. Bamber		
Australia, 8	H. Bath & Sons		
Asbestos—			
U. States, £18	Pickford & Co.		
Holland, 17	Hernu, Peron & Co.		
Canada, 286	G. Ward & Sons		
France, 26	Girard, Frs. & Co.		
U. States, 8	S. Guiterman & Co.		
Holland, 27	Garland & Co.		
" 3	Pickford & Co.		
" 30	Robinson, Roberts & Co.		
Barytes—			
Belgium, 95 cks.	Magee, Taylor & Co.		
" 56	J. L. Lyon & Co.		
Boracic Acid—			
Italy, 13 pkgs.	B. & N. Wf. Co.		
" 13	Potter & Clarke		
Camphor—			
Hong Kong, 100 pkgs.	Lewis & Peat		
" 17	Prop. Hay & Wf.		
Spain, 1	A. G. Hayes		
Japan, 101	Hale & Son		
H. Kong, 1,014	"		
China, 738	"		
" 100	R. Warner & Co.		
Caoutchouc—			
E. Indies, 20 c.	Elkan & Co.		
Zanzibar, 28	L. & I. D. Jt. Co.		
U. States, 25	Prop. Bull Wf.		
E. Indies, 49	S. Figgis & Co.		
Madag'scr, 260	Procter Brs.		
E. Indies, 14	L. & I. D. Jt. Co.		
Madagascar, 20	Hammond & Co.		
" 51	L. & I. D. Jt. Co.		
Cape, 100	Hammond & Co.		
Madagascar, 4	Kleinwort Sons & Co.		
France, 18 c.	H. Johnson & Sons		
Germany, 84	Ross & Deering		
Zanzibar, 15	Clarke & Smith		
" 230	L. & I. D. Jt. Co.		
Castor Oil—			
France, 10 cks.	Beresford & Co.		
E. Indies, 200	R. G. Hall & Co.		
" 59	H. A. Litchfield & Co.		
Belgium, 11 cks.	Fuerst Brs.		
" 34 bbls.	Burrell & Co.		
Chemicals (otherwise undescribed)			
Belgium, 40 pkgs.	T. H. Lee		
Germany, 1	L. & I. D. Jt. Co.		
Belgium, 19	C. S.		
Holland, 19	Carey & Sons		
" 10	T. H. Lee		
Germany, 79	R. Greening		
U. States, 10	Phillips & Graves		
Germany, 6	"		
Holland, 69	A. & M. Zimmermann		
Germany, 70	"		

Cream of Tartar—			
Italy, 16 pkgs.	Thames S. T. & L. Co.		
Holland, 30	Kirkpatrick & Co.		
France, 3	3 cks. W. C. Bacon & Co.		
" 5	M. Ashby, Ld.		
" 5	F. C. Devon & Co.		
" 8	B. & F. Wf. Co.		
Spain, 13	W. C. Bacon & Co.		
" 15	B. & F. Wf. Co.		
Holland, 2	W. C. Bacon & Co.		
Dextrine—			
Germany, 50 pkgs.	M. D. Co.		
" 25	R. G. Hall & Co.		
" 20	Oblenschlager Brs.		
" 200	W. Balchin		
" 70	M. D. Co.		
" 44	Prunk, Davis & Co.		
Dyestuffs—			
Argols			
Italy, 103 pkgs.	Thames S. T. & L. Co.		
Cutch			
Rangoon, 500 pkgs.	Leach & Co.		
E. Indies, 35	P. & O. Co.		
Extracts			
Germany, 400 pkgs.	T. H. Lee		
France, 6	G. S. N. Co.		
Denmark, 1	J. Sinclair & Son		
" 2	M. D. Co.		
Jamaica, 238	L. & I. D. Jt. Co.		
Germany, 200	J. Knill & Co.		
Denmark, 20 cks.	Sorensen & Co.		
Indigo			
E. Indies, 34 chts.	Croysdale & Co.		
" 11	L. & I. D. Jt. Co.		
" 18	Parry & Co.		
" 7	R. Von Glehn & Sons		
" 3	Park, Macfadyen & Co.		
" 39	Ross & Deering		
" 9	W. J. Eale & Co.		
Myrabolama			
E. Indies, 1,366	W. Shelcott		
" 1,372	Anderson, Weber & Smith		
Sumac			
Italy, 140 pkgs.	R. Waters		
" 100	W. Barter & Co.		
" 150	Beresford & Co.		
" 100	A. E. Piggott		
" 150	E. Lloyd & Co.		
" 200	W. Shelcott		
" 50	H. Johnson & Sons		
" 1,800	Bevington & Sons		
" 50	J. Knill & Co.		
" 500	A. Slaton		
Tanner's Bark			
Belgium, 25 t.	Sawer, Sons & Co.		
Germany, 21	Devitt & Hett		
" 50	Deering & Robottom		
Adelaide, 85	J. Greig		
" 403	Baxter & Hoare		
Belgium, 20	Leach & Co.		
" 5	Armati & Harrison		
Adelaide, 51	Beresford & Co.		
Turmeric			
—, 500 pkgs.	R. Warner & Co.		
E. Indies, 1,050	H. A. Litchfield & Co.		
" 1,500	Dalton & Young		
" 2,200	Leach & Co.		
" 149	Lucas and Spencer's Wf., Ld.		
Valonia			
Adelaide, 50 t.	A. & W. Nesbitt		
A. Turkey, 112	"		
" 54	Adam Brs.		
" 50	Marshall & French		
" 20	Hicks, Nash & Co.		
Farina—			
Holland, 100 pkgs.	J. Knill & Co.		
Glucose—			
U. States, 200 pkgs.	570 c. Oblenschlager Brs.		
" 450	2,710 c. Un. Lige Co., Ld.		
" 200	200 R. G. Hall & Co.		

" 300	300	Thames S. Tug & L. Co.	
Germany, 603	603	Baxter & Hoare	
" 13	104	M. D. Co.	
" 300	300	Oblenschlager Brs.	
U. States, 50	283	A. E. Piggott	
" 50	300	T. J. Lipton	
" 150	880	L. Sutro & Co.	
" 680	1,345	L. Norman & Co., Ld.	
" 200	1,100	Makin & Bancroft	
Glue—			
—, £607			
Infusorial Earth—			
Holland, £10		Schenker & Co.	
Magnesia—			
Austria, 10 pkgs.		A. W. Latham & Co.	
Manure—			
E. Indies, 210 t.		A. Hunter & Co.	
" 50		Fox, Roy & Co.	
Germany, 50		Perkins & Homer	
" 41		P. W. Berk & Co.	
Belgium, 9		H. & E. Albert	
Germany, 10		L. & I. D. Jt. Co.	
Methyl Alcohol—			
Belgium, 11 dms.		Stein Brs.	
Mica—			
E. Indies, 82		Ross & Deering	
" 675		W. M. Smith & Sons	
Mineral White—			
Austria, £35		Stobbs, Wilson & Co.	
Molasses—			
U. States, 1,000 cks.	6,000 c.	Prop. Sun Wf. L. Sutro & Co.	
" 300	1,740	"	
Nitrate of Lead—			
Holland, 4 pkgs.		Phillips & Graves	
Ochre—			
France, 136 cks.		W. Harrison & Co.	
" 44		J. Burnett & Sons	
" 40		Ridley & Whitley	
Germany, 2 cks.		Phillips & Graves	
Holland, 8 pkgs.		"	
Oxalic Acid—			
Holland, 35 pkgs.		Beresford & Co.	
Paraffin Wax—			
U. States, 1,677 bbls.		Anglo-Am. Oil Co.	
Rangoon, 402 cks.		H. Hill & Sons	
Plumbago—			
Germany, 172 cks.		E. & T. Pink	
Ceylon, 205 bbls.		R. G. Hall & Co.	
Germany, 35		L. & I. D. Jt. Co.	
" 40		17 cks. B. Gallaway	
Potassium Bicarbonate—			
Holland, 36 c.		A. & M. Zimmermann	
Potassium Carbonate—			
France, 58 c.		J. A. Reid	
" 200		Charles and Fox	
Potassium Chloride—			
Germany, 200 pkgs.		W. G. Blagden	
Potassium Cyanide—			
Holland, 10 pkgs.		F. Boehm	
Potassium Hydrate—			
France, 4 pkgs.		Spies Brs. & Co.	
Potassium Permanganate—			
Germany, 20 pkgs.		L. & I. D. Jt. Co.	
Potassium Sulphate—			
France, 9 pkgs.		A. J. Smith	
Pumice Stone—			
Italy, [2 t.		Stobbs, Wilson & Co.	
" 4		R. G. Hall & Co.	
" 36		O'Hara & Hoar	
" 6		H. B. Alder & C.	
Quicksilver—			
Italy, 200 btlis.		H. Bath & Son	

Rosin—			
U. States, 250 bbls.		F. & S. Chiesman & Co.	
France, 14		Lucas & Spencer's Wf. Co.	
U. States, 250		H. Hill & Son	
" 2,769		Fairclough, Dodd, & Jones	
Salicylic Acid—			
Germany, 12 pkgs.		L. & I. D. Jt. Co.	
Saltpetre—			
Germany, 42 cks.		J. Hall & Son	
E. Indies, 501 bgs.		Ross & Deering	
Germany, 114 cks.		P. Hecker & Co.	
E. Indies, 1,516 bgs.		Lucas & Spencer's Wf. Co.	
Sodium Bicarbonate—			
Germany, 31 c.		H. Lambert	
Sodium Hyposulphite—			
Germany, 146 pkgs.		Petri Brs.	
Sodium Phosphate—			
Belgium, 6 c.		R. W. Greeff & Co.	
Starch—			
Germany, 50 pkgs.		J. Hall, Jr., & Co.	
Belgium, 224		Leach & Co.	
" 512		Sawer, Sons & Co.	
" 250		T. Ronaldson & Co.	
" 512		E. & T. Pink	
" 200		F. Clayton & Co.	
" 200		Magee, Taylor & Co.	
Holland, 140		G. Rahn & Co.	
" 576		Taylor Brs.	
Germany, 45		Phillips & Graves	
Austria, 30		R. G. Hall & Co.	
Germany, 1,880		Horne & Co.	
Holland, 678		Little & Johnston	
Belgium, 442		T. H. Lee	
Holland, 286		E. & T. Pink	
France, 800		Phillips & Graves	
Holland, 200		A. Stark	
" 640		"	
Stearine—			
U. States, 25 cks.		L. & I. D. Jt. Co.	
Belgium, 237 bgs.		H. Hill & Son	
France, 300		"	
" 120		Walbaum & Tosatti	
Sulphur—			
Italy, 25 t.		G. Boer & Co.	
" 15		F. Smith	
" 100		A. Hunter & Co.	
" 8		M. D. Co.	
" 11		W. C. Bacon & Co.	
France, 45		C. Vincent	
" 14		C. J. Capes & Co.	
Tallow and Stearine—			
U. States, 12 cks.		Allan Brs. & Co.	
Tar—			
N. Russia, 1,184 bbls.		W. F. Malcolm & Co.	
Tartaric Acid—			
Italy, 16 pkgs.		B. & F. Wf. Co.	
Holland, 59		Kirkpatrick & Co.	
" 17		B. & F. Wf. Co.	
" 3		F. C. Devos & Co.	
Turpentine—			
U. States, 600 bbls.		Fairclough & Co.	
Ultramarine—			
Germany, 10 cks.		H. Lambert	
Holland, 7		Phillips & Graves	
Belgium, 3		Leach & Co.	
Holland, 5 cks.		Hernu, Peron & Co.	
Belgium, 6 bbls.		W. Harrison & Co.	
Verdigris—			
France, 5 pkgs.		B. & F. Wf. Co.	
White Lead—			
Holland, 3 cks.		Spies Brs. & Co.	
France, 20		J. Watt & Son	
Holland, 20		A. Zumbach & Co.	
" 20		A. & M. Zimmermann	
Germany, 43		M. Ashby, Ld.	
" 18		Randall Brs.	
" 37		D. Storer & Son	
" 31		Spies Brs. & Co.	
" 13		Petri Brs.	
" 27		W. A. Rose & Co.	

gum, 10 D. C. Thomas & Sons
16 brls. J. L. Lyon & Co.
20 Colthurst & Harding
d Pulp
den, 80 pkgs. Henderson, Craig,
& Co.
16 Prop. Dowgate Dk.
244 W. G. Taylor & Co.
way, 340 E. J. & W. Goldsmith
many, 50 H. C. Everett
gum, 67 Henderson, Craig,
& Co.
1,595 F. Claydon & Co.
69 Thames S. T. & L. Co.
den, 4,000 E. J. & W. Goldsmith
ada, 9,947 G. Rabn & Co.
and, 399 E. J. & W. Goldsmith
1,300 E. J. & W. Goldsmith
Oxide
and, 150 cks. J. Matton
50 pkgs. M. Ashby, Ltd.
White
and, 500 cks. Soundy & Sons

LIVERPOOL.

Week ending August 8th.

rdam, 23 cks.
erp, 50 bgs. J. T. Fletcher
& Co.
50
ne—
delphia 750 brls.
Ash—
Plate, 301 bgs.
res, 352 W. B. Dickinson
ite
erma, 820 t. 3,293 bgs.
r Oil
ita, 792 cs. Ralli Brs.
436 Petrochino Brs.
50
icals (otherwise undes.)
nore, 50 cks.
delphia, 36
rs
urg, 3 cs.
rdam, 2 cks.
of Tartar
o, 5 cks.
Blood
Plate, 161 bgs.
affa
ols, 23 cks.
ch, 722 bxs.
on, 45 brls.
racts
ore, 75 cks.
aux, 155 De Clermont
& Donner
50 Oak Extract
Co.
ork, 45 cks. 100 bxs. E. M. Schweich
ie
ore, 8,475 ps.
abolams
ta, 3 bgs.
io, 85 pkgs. J. Kitchen
& Co.
550 bgs. 10 bls.
onia
1,134 bgs. Barff & Co.
25 t.
180 bgs.
100 N. W. Jackson
ie
12 cs. Co-op. W'sale
Society, Ltd.
ork
500 brls.
203 bgs.
48
215 cks. Co-op. W'sale
Society, Ltd.
P, 5 2 bls. J. T. Fletcher
& Co.
aire, 5 5 bls.
one
1 crt.
ese Ore
Bay, 2,117 t. Darwin &
Mostyn Iron Co.

Minium—
Rotterdam 16 cks.
Molasses—
Barbadoes, 6 pns. A. Gibbs,
Sons & Co.
Naphtha—
Philadelphia, 7,377 brls.
Ochre—
Alicante, 500 bgs.
Oxalic Acid—
Rotterdam, 6 cks.
Paint—
Boston, 1 cs. 2 brls.
12 Bahr, Behrend
& Ross
Paris, 5 1 ck. Goodlass,
Wall & Co.
Paraffin Scale—
Baltimore, 200 brls.
Phosphates—
Antwerp, 200 bgs.
Pitch—
Boston, 1 brl.
Potash—
Rouen, 11 cks. Co-op.
W'sale Society, Ltd.
6 45 dms.
Pyrites—
Huelva, 860 t. Matheson & Co.
1,657
Rosin—
Boston, 950 brls.
New York, 250
Apalachicola, 1,247
Salt—
Hamburg, 2 cks.
Saltpetre—
Calcutta, 1,207 bgs. Ralli Brs.
350
Hamburg, 87 brls. 25 kgs.
Soap—
Boston, 340 brls. W. T. Geddes
& Co.
New York, 5 cs. J. Thompson
Bari, 74
Naples, 198
Smyrna, 68 324 bxs.
Alexandria, 15 bgs. Chama
& Co.
Philadelphia, 38 crts. 600 bxs.
Soda—
Rotterdam, 63 brls.
Starch—
New York, 600 bgs. J. T. Fletcher
& Co.
122 cs.
Rotterdam, 354
80
Stearine—
New York, 10 brls. Vacuum Oil
Co.
Bordeaux, 20 cs.
Antwerp, 48 bgs.
Sulphur—
Hamburg, 20 brls.
Tallow—
Boston, 10 tcs. Stollerfoht,
Sons & Co.
River Plate, 492 cks. H.
B. Ayres, 100 pps. Brown
335 124 1 hf. ppe.
359 hds.
Tartar—
Bordeaux, 16 cks.
Tartaric Acid—
Bari, 50 cks.
Tin Oxide—
Rotterdam, 25 cs.
Treacle—
Philadelphia, 1,000 brls.
Turpentine—
Apalachicola, 1,236 cks.
Ultramarine—
Hamburg, 5 cs.
Waste Salt—
Antwerp, 100 bgs. J. T. Fletcher
& Co.
Hamburg, 760 t.
White Lead—
Rotterdam, 24 cks. J. T. Fletcher
& Co.
Antwerp, 55
Wood Pulp—
Gothenburg, 6 pkgs. Schenkenwald
& Co.

Antwerp, 55 bls.
Christiania, 900
Drammen, 1,210
Skien, 1,900
Rotterdam, 193
Zinc Oxide—
Rotterdam, 115 cks.
Antwerp, 75 brls.

MANCHESTER.

Week ending August 10th.

Albumen—
Hamburg, 5 cs.
Aluminium—
Hamburg, 2 cs. 1 ck.
Antimony Bifluoride—
Hamburg, 3 cks.
Antimony Salts—
Hamburg, 1 ck.
Barytes—
Antwerp, 50 bgs.
Bone Ash—
Rio Grande do Sul, 400 t. W. Gordon
& Co.
Caustic Potash—
Antwerp, 20 dms.
Chemicals (otherwise undescribed)
Paris, 2 cks.
Rotterdam, 7
Hamburg, 4 cs.
Chromium Acetate—
Rotterdam, 10 cks.
Colours—
Paris, 1 ck
Rotterdam, 62 34 cs. 97 brls.
Hamburg, 3 bxs.
Antwerp, 4 4
Dextrine—
Stettin, 100 bgs. Stott, Coker,
& Co.
Dyestuffs—
Alizarine
Rotterdam, 47 cks. 4 cs.
Extracts
Antwerp, 20 cks.
Farina—
Stettin, 900 bgs. Browne,
Geveke, & Co.
Hamburg, 1,032
90
Glucose—
Stettin, 124 kgs.
Glue—
Stettin, 94 bgs.
Rotterdam, 40
Hamburg, 10 4 cks
Stettin, 4 13 Stott, Coker,
& Co.
Limestone—
Antwerp, 3 crts.
Litharge—
Rotterdam, 3 cks.
Nitrate of Lead—
Rotterdam, 4 cks.
Phosphate—
Rotterdam, 7 dms.
Pitch—
Antwerp, 16 cks.
Potash—
Rotterdam, 8 cks.
Potassium Bicarbonate—
Hamburg, 1 ck.
Potassium Sulphate—
Rotterdam, 100 cks.
Pyrites—
Huelva, 1,849 t.
Rosin—
Wilmington, N.C., 3,500 brls.
Soda—
Hamburg, 5 cks.
Starch—
Rotterdam, 50 cs.
Hamburg, 168
Antwerp, 104
Sulphur—
Hamburg, 1 ck. 1 cs.
Tannic Acid—
Hamburg, 9 cks.
Tartar Emetic—
Hamburg, 2 cs.
Tartaric Acid—
Rotterdam, 18 cks. 20 kgs.
Turpentine—
Wilmington, N.C., 688 brls.

Waste Salt—
Hamburg, 500 bgs. qty.
Antwerp, 1 pkge.
Wood Pulp—
Rotterdam, 92 bls.
Holmestrand, 1,246
Skien, 120
Frederickshaven, 2,902 lds.

Zinc Oxide—
Rotterdam, 25 brls. 70 cks.
Antwerp, 20
Zinc White—
Rotterdam, 5 cks.

HULL.

Week ending August 10th.

Albumen—
Riga, 25 cs. Helmsing & Son
Libau, 12
Aniline Colours—
Rotterdam, 1 ck. W. & C. L. Ringrose
Antimony—
Hamburg, 5 cs. Wilson, Sons,
& Co., Ltd.
Asbestos—
Rotterdam, 3 bls. W. & C. L. Ringrose
Barytes—
Rotterdam, 48 cks. W. & C. L. Ringrose
Antwerp, 50 bgs. Bailey & Leatham
Camphor—
Hamburg, 2 cks. Wilson, Sons,
& Co., Ltd.
Chemicals (otherwise undescribed)
Hamburg, 4 cks. Wilson, Sons,
& Co., Ltd.
Dunkirk, 46 dms. 58 pks. W. & C. L. Ringrose
Rotterdam, 4 cks. W. & C. L. Ringrose
Antwerp, 70 pks. 5 dms. Wilson,
Sons, & Co., Ltd.
China Clay—
Rotterdam, 124 bgs. Reckitt & Sons
Cod Oil—
Bergen, 210 brls. Wilson, Sons,
& Co., Ltd.
Hamburg, 82
Colours—
Rotterdam, 3 cks. 3 brls. Hutchinson & Son
Stettin, 4 cks. Wilson, Sons,
& Co., Ltd.
Hamburg, 1 Sissons Brs. & Co.
Rotterdam, 128 pks. W. & C. L. Ringrose
8 cks. 1 cs. Wilson,
Sons, & Co., Ltd.
Antwerp, 3 9 pks. W. & C. L. Ringrose
Amsterdam, 1
Cream of Tartar—
Rotterdam, 2 cks. W. & C. L. Ringrose
Dextrine—
Stettin, 75 bgs.
Dyestuffs—
Alizarine
Rotterdam, 74 pks. 2 cks. W. & C. L. Ringrose
Indigo
Kurrachee, 17 cs. Wilson, Sons,
& Co., Ltd.
Madder
Rotterdam, 1 ck. Cowburn & Co.
Hutchinson & Son
Myrabolams
Bombay, 9,444 bgs.
Farina—
Ghent, 230 bxs. 27 bgs. Wilson,
Sons, & Co., Ltd.
Stettin, 175 bgs. 50
Hamburg, 50 bls.
Antwerp, 125
Glue—
Hamburg, 5 bls. Sparkuhle &
Steinle
Antwerp, 20 bgs. 2 cks. Wilson, Sons,
& Co., Ltd.
Lead Acetate—
Hamburg, 6 cks.
Rotterdam, 7 W. & C. L. Ringrose
Limestone—
Antwerp, 2 cs. Wilson, Sons,
& Co., Ltd.
Mercury—
Amsterdam, 1 bx. W. & C. L. Ringrose

Pitch— Rotterdam, 50 cks. Hutchinson	
" " 28 W. & C. L. Ringrose	
Plumbago— Hamburg, 17 cks. Bailey & Leatham	
" " 17 Aire & Calder N. Co.	
Soap— Bremen, 1 brl. Wright, Dreyer, & Co.	
Starch— Bremen, 3,057 cs. Veltmann & Co.	
Stearine— Antwerp, 15 bgs. Wilson, Sons, & Co., Ltd.	
Tallow— St. Petersburg, 7 cs.	
Tar— Uleaborg, 2,430 brls. 740 hf.-bals. J. Good & Sons	
Tartar— Bordeaux, 1 ck. Helming & Son	
Tartaric Acid— Rotterdam, 2 cks. W. & C. L. Ringrose	
Ultramarine— Bremen, 8 cks. W. & C. L. Ringrose	
Yarnish— Hamburg, 1 dm. Wilson, Sons, & Co., Ltd.	
White Lead— Amsterdam, 16 cs. J. Good & Sons	
" Rotterdam, 21 cks. W. & C. L. Ringrose	
" Antwerp, 23 Basley & Leatham	
Wolfgram— Hamburg, 10 cs. Wilson, Sons, & Co., Ltd.	
Wood Pulp— Helsingfors, 104 bls. J. Good & Sons	
" " 338	

GLASGOW.

Week ending August 15th.

Aniline— Rotterdam, 2 cks. 1 bx. J. Rankine & Son	
Barytes— Rotterdam, 20 cks. J. Rankine & Son	
" " 44 pkgs.	
Castor Oil— Antwerp, 59 cks.	

Chemicals (otherwise undescribed) Hamburg, 1 cs.	
Chloride of Sulphur— Rotterdam, 35 chys. J. Rankine & Son	
Colours— Rotterdam, 5 cks. J. Rankine & Son	
" Antwerp, 1	
" Hamburg, 5	
" Rotterdam, 45 pkgs.	
Cottonseed Oil— New York, 30 brls.	
Dyestuffs— Alizarine Rotterdam, 50 cks. J. Rankine & Son	
" Cuteh Rangoon, 457 bxs. 1,499	
" Turmeric Rangoon, 200 bgs.	
Farina— Hamburg, 100 bgs.	
Glucose— New York, 250 brls.	
Glue— Boston, 7 brls.	
" Hamburg, 20 bgs.	
Guano— Onundarfjord, 1,814 sks.	
Lead Acetate— Rotterdam, 19 cks. J. Rankine & Son	
Mica— Boston, 1 brl.	
Oxalic Acid— Rotterdam, 4 cks. J. Rankine & Son	
Paraffin Scale— Rangoon, 659 cs.	
Plumbago— Colombo, 95 brls.	
Potash— Hamburg, 40 cks.	
Potassium Bichromate— Rotterdam, 2 cks. J. Rankine & Son	
Potassium Prussiate— Antwerp, 11 cks.	
Pyrites— Huelva, 1,968 t. Tharsis Co.	
Starch— New York, 1,100 bxs. J. Rankine & Son	
" Rotterdam, 68 cs.	
Sulphur Ore— Huelva, 960 t. Seville Sulphur & Copper Co., Ltd.	

Treacle— Boston, 250 brls.	
Yarnish— Ghent, 1 ck.	
" New York, 6 brls. 1 cs.	
Waste Salt— Hamburg, 1,248 bgs.	
White Lead— Antwerp, 7 cks. J. Rankine & Son	
" Rotterdam, 67	
Wood Pulp— Skien, 2,155 bls.	
" Bergen, 340	
" Christiania, 795	
" Hamburg, 409	
Zinc Oxide— Antwerp, 55 cks.	
" New York, 30 brls.	
Zinc White— Rotterdam, 260 cks. J. Rankine & Son	

TYNE.

Week ending August 10th.

Barium Chlorate— Rotterdam, 300 bgs. Tyne S. S. Co.	
Barytes— Rotterdam, 468 bgs. 61 cks. Tyne S. S. Co.	
" Antwerp, 400	
Cod Oil— Bergen, 10 brls.	
Colours— Rotterdam, 1 brl. Tyne S. S. Co.	
Limestone— Antwerp, 4 crts. Tyne S. S. Co.	
Ochre— Mazarron, 200 bgs. H. Clapham & Co.	
Paint— Hamburg, 2 cks. Tyne S. S. Co.	
Rosin— New York, 500 brls. Furness, Withy, & Co.	
Starch— Rotterdam, 102 cs. Tyne S. S. Co.	
Stearine— New York, 25 hhds. Furness, Withy, & Co.	
Sulphur— Christiania, 1 bg.	
Tar— Archangel, 3,600 brls.	
Ultramarine— Hamburg, 15 cs. Tyne S. S. Co.	
Wood Pulp— Christiania, 1,160 bls.	

GOOLE.

Week ending August 7th.

Alkali— Calais, 20 cks.	
Aniline— Ghent, 9 cks.	
Barytes— Antwerp, 150 bgs.	
Colours— Hamburg, 40 cks. 8 cs.	
Dyestuffs— Alizarine Rotterdam, 41 cks. 2 cs.	
" Logwood Belize, 826 t.	
Dyestuffs (otherwise undescribed) Rotterdam, 10 cks. 9 cs.	
" Boulogne, 60 4 17 pkgs.	
Farina— Delfsyzbl, 1,508 bgs.	
Potash— Antwerp, 5 dms.	
" Dunkirk, 40 2 cks.	
" Calais, 16	
Pyrites— Huelva, 800 t.	
Soap— Rotterdam, 3 cs.	
Sodium Silicate— Rotterdam, 1 ck.	
Ultramarine— Rotterdam, 3 cs.	
" Hamburg, 2	
Yarnish— Boulogne, 1 cs.	
Waste Salt— Hamburg, 1,439 cks. 1,080 bgs.	

GRIMSBY.

Week ending August 10th.

Albumen— Hamburg, 7 cks.	
Aniline Dyes— Antwerp, 20 pkgs.	
Caoutchouc— Hamburg, 2 cs.	
Chemicals (otherwise undescribed) Hamburg, 3 cs. 6 pkgs.	
Colours— Antwerp, 6 cs. 8 cks. 52 pkgs.	
" Hamburg, 18 17	
Farina— Hamburg, 21 bgs.	
Starch— Antwerp, 21 cs.	
Zinc Ashes— Antwerp, 24 cks.	

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.**LONDON.**

Week ending August 14th.

Alkali— Gibraltar, 10 c. £7	
" Auckland, 1 t. 17	
" Geraldton, 3 5 8	
Ammonia— Bowen, 25 cs. £52	
" Sydney, 7 t. 2 c. 145	
Ammonium Carbonate— New York, 12 t. 16 c. £420	
" Cologne, 2 17 86	
" Paris, 4 17 754	
Ammonium Chloride— Brisbane, 5 c. £10	
" Cologne, 8 cks. 55	
" Trebzonde, 10 brls. 56	
" Sydney, 8 50	
" Rotterdam, 18 108	
" Montreal, 2 t. 14 59	
" Antwerp, 1 36	
Ammonium Sulphate— Bremen, 40 t. £380	
" Ghent, 20 194	
Anhydrous Ammonia— Mauritius, 4 c. £13	
Arsenic— Melbourne, 2 t. £33	

Bisulphite of Lime— Calcutta, 5 t. 12 c. £89	
Bleaching Powder— E. London, 1 t. 1 c. £16	
Bone Waste— Rosen, 12 t. 5 c. £84	
Borax— Natal, 2 t. 10 c. £11	
Calcium— Bowen, 19 t. 19 c. £53	
Carbon Bisulphide— M. Video, 9 c. £14	
Carbonic Acid Gas— Jersey, 45 tubes £17	
Caustic Soda— Melbourne, 17 c. £15	
" Sourabaya, 21 t. 9 130	
" Rio de Janeiro, 10 9	
" Auckland, 10 12 98	
" E. London, 12 14	
" Sydney, 18 11 170	
" Algoa Bay, 3 12 97	
Chemicals (otherwise undescribed) Yokohama, 1 cs. £11	
" Shanghai, 5 33	
" Durban, 8 drs. 3 38	
" Barcelona, 8 119	

Valencia, 17 cks. 141	
Adelaide, 30 kgs. 2 77	
Brisbane, 4 brls. 18	
B. Ayres, 4 t. 10 c. 12 pkgs. 206	
Alexandria, 6 26	
Fremantle, 12 29	
Auckland, 20 cs. 52	
Sydney, 10 2 530	
Algoa Bay, 11 13	
Citric Acid— Seville, 15 c. £89	
" Wanganui, 5 36	
" St. Petersburg, 1 t. 10 196	
" Brisbane, 1 cs. 10 1	
" Sydney, 15 97	
Antwerp, 4 cks. 122	
Brussels, 5 30	
Melbourne, 1 121	
Stamboul, 2 15	
Bombay, 2 kgs. 12	
B. Ayres, 2 15	
Coal Products— Alizarine Boston, 10 cks. £136	
" Anthracene Dusseldorf, 108 cks. £1,360	
" Benzol Antwerp, 21 brls. £44	
" Carbolic Acid Bombay, 21 cks. 4 cs. £35	
" Brisbane, 25 drs. 8	

Singapore, 10 7	
Coal Tar Dyes Boston, 11 cks. £614	
" Adelaide, 1 cs. 13	
Creosote Norfolk (Vir.), 500 brls. £183	
" Salazete, 23,500 gallons 123	
Naphtha Sydney, 7 cs. £41	
Pitch Baltimore, 500 bgs. £120	
" Hong Kong, 500 cks. 308	
" Valparaiso, 20 brls. 11	
" Boston, 250 124	
" Dunkirk, 110 t. 108	
" Auckland, 4 crates 20 dms. 2	
Tar Brisbane, 50 pkgs. £4	
" St. Vincent, 7 brls. 7	
" Cape Town, 12 1	
" E. London, 250 drs. 16	
" Samarang, 100 50	
" Batavia, 30 14	
" Natal, 549 20	
Tar Oil Boulogne, 6 cks. £4	
Coal Products (otherwise undescribed) Natal, 15 drs. £44	
Copper Sulphate— Havre, 20 t. £10	
" Natal, 14 c. 11	
" Paris, 5 3 15	

ive Sublimate—		
the, 2 c.	£28	
of Tartar—		
castle, 10 c.	£40	
ey, 1 t.	70	
ide, 1 10	110	
ay, 3 cs.	10	
land, 10	45	
Bay, 3	13	
burne, 1 15	125	
fectants—		
rt, 1 ck.	£10	
ey, 300 drs.	88	
illes, 7 c.	52	
kok, 50 cks.	23	
real, 60	50	
land, 1 t. 2 c.	11	
ica, 12 cs.	15	
ica, 10 drs.	10	
Town, 14	9	
Bay, 18	22	
burg, 100 cks.	450	
esia—		
ourne, 10 c.	£15	
re—		
efort, 290 t.	£1,160	
enburgh, 460 16 c.	1,032	
ig, 165 13	360	
8 17	90	
re Salts—		
Bay, 2 t. 15 c.	£182	
ic Acid—		
ngen, 6 t. 7 c.	£180	
ltar, 6	12	
horus—		
ey, 4 c.	£48	
h—		
ey, 1 t. 3 c.	£20	
h Crystals—		
els, 3 cs.	£63	
2	63	
h Salts—		
land, 6 t. 5 c.	£920	
sium Bicarbonate—		
ourne, 5 c.	£8	
sium Chlorate—		
ourne, 5 c.	£11	
enburgh, 4 kgs.	22	
ay, 4 cs.	22	
sium Cyanide—		
goa Bay, 30 cs.	£180	
a Bay, 2 t. 18 c.	1,526	
sium Iodide—		
l, 1 cs.	£27	
sium Oxalate—		
ort, 16 cks.	£75	
sium Prussiate—		
es, 10 c.	£34	
erdam, 1 ck.	26	
etos—		
ort, 2 cks.	£15	
etre—		
erdam, 1 t. 5 c.	£30	
ane, 1 10	35	
hampton, 1 1	23	
mbro, 15	17	
ourne, 1	23	
a, 11	13	
Paulo, 2 4	52	
de Janeiro, 7 18	180	
castle, 11	12	
a Bay, 9	11	
aide, 1	22	
ey, 4 15	108	
p Dip—		
ane, 5 t. 7 c.	£188	
ey, 8 5	194	
art, 100 cs.	250	
il, 400 drs.	70	
a Bay, 5 t. 12	175	
ny, 100 cs.	250	
ondon, 16	30	
yres, 500 7 t.	1,090	
e Town, 4 t. 3 c.	£9	
ane, 1 13	10	
aide, 5	14	
Crystals—		
castle, 21 t. 12 c.	£42	
via, 23 16	46	
a Bay, 10	23	
im Bicarbonate—		
ington, 2 t. 12 c.	£20	
hampton, 1 15	14	
ao, 1	8	
mantion, 1	8	
nantle, 7	45	
e Town, 10	7	
im Carbonate—		
ane, 15 c.	£6	

Sodium Hyposulphite—		
Melbourne, 5 t.	£36	
Sodium Silicate—		
Wanganui, 4 t. 1 c.	£21	
Melbourne, 10	35	
Sodium Sulphate—		
Christchurch, 2 t.	£6	
Strontium Nitrate—		
Bombay, 4 cs.	£13	
Sulphur—		
Algoa Bay, 40 brls.	£22	
Cape Town, 3 t. 3 c.	35	
Sulphuric Acid—		
Algoa Bay, 25 brls. 5 drs.	£20	
Natal, 25 cs. 1 t. 10 c.	38	
Superphosphate—		
Riga, 395 t. 5 c.	£879	
Tar Oil—		
Algoa Bay, 20 t. 11 c.	£74	
Tartaric Acid—		
Boulogne, 5 c.	£25	
Brisbane, 1 t. 15	178	
Bombay, 2 kgs.	10	
Sydney, 2	195	
Fremantle, 1 ck.	15	
Adelaide, 1 t. 10 c.	150	
St. Petersburg, 3	18	
Melbourne, 3	303	
Tin Chloride—		
Riga, 4 c.	£16	

LIVERPOOL.

Week ending August 14th.

Albumen—		
Boston, 9 cks.		
Alkali—		
Boston, 13 t. 10 c.	£81	
Alum—		
Halifax, 1 t. 1 c. 1 q.	£5	
Bourgas, 2 3 1	10	
Oporto, 2 4 3	107	
Vera Cruz, 5	1	
Montreal, 10	50	
Adelaide, 10	3	
Aluminoferrie—		
Venice, 10 t.	£26	
Portland, Oregon, 10 1 c. 2 q.	29	
Ammonia—		
Havana, 6 c.	£10	
Ammonium Carbonate—		
Malaga, 3 c.	£5	
Bilbao, 6	10	
Montreal, 1 t. 5	42	
Lisbon, 13	27	
Danzig, 10	16	
Dunedin, 5	18	
Naples, 6 7 3 q.	13	
Ferrol, 4	7	
Ammonium Chloride—		
Talcahuano, 3 q.	£1	
Philadelphia, 29 t. 9 c.	818	
Trieste, 2	70	
Genoa, 1	6	
Libau, 1 5	44	
Ammonium Sulphate—		
New York, 45 t. 10 c.	£460	
Bordeaux, 28 5 3 q.	283	
Barbadoes, 51 2 3	511	
Alicante, 10 1 2	101	
Honolulu, 168 1 2	1,261	
Charente, 100	1,000	
Grand, 8	79	
Leghorn, 60 10	570	
Philadelphia, 90	706	
Boston, 51	518	
Cheribon, 81 18 1	760	
Las Palmas, 25	251	
Valencia, 160 9 1	1,996	
Asbestos—		
Talcahuano, 1 ble.		
Bombay, 1 cs.		
Philadelphia, 2		
Valparaiso, 1 bg. 1 trs.		
Bleaching Powder—		
Baltimore, 106 cks.		
Barcelona, 15		
Boston, 844		
Corfu, 15		
Genoa, 48		
Leghorn, 6		
Montreal, 57		
Nantes, 4		
New York, 750 50 brls.		
Piræus, 4		
Syria, 4		
Bombay, 18	8 cs.	
Dunkirk, 5		
Liquique, 5		

Malaga, 3		
Naples, 10		
Philadelphia, 203		
Riga, 50 kgs.	15	5 crts.
Rouen, 16		
San Sebastian, 29		
Valparaiso, 6 cs.		
Boracic Acid—		
Yokohama, 4 t. 2 c. 4 q.	£113	
Hiogo, 2 19 2	78	
Borate of Lime—		
Fiume, 84 t. 10 c. 2 q.	£885	
Borax—		
Stettin, 1 t. 10 c.	£30	
Antwerp, 11 6	230	
Malaga, 8	9	
Vera Cruz, 1	18	
Hamburg, 35 1 6 q.	693	
M. Video, 1 11 2	32	
Christiania, 19 3	20	
B. Ayres, 5	16	
Patras, 1	1	
Palamatta, 6 2	6	
Melbourne, 2 11 2	43	
Adelaide, 2 13 2	56	
Havana, 8 3	9	
Rotterdam, 36 9	897	
Calcutta, 12	12	
Constantinople, 10 cks	28	
Calcium Chloride—		
Auckland, 1 t. 8 c.	£3	
Boston, 26 9	55	
Adelaide, 2 4	5	
Brisbane, 5 11	13	
Castor Oil—		
Pt. Natal, 12 cs.		
Kingston, 3		
Trinidad, 3		
Caustic Potash—		
Havre, 2 t. 4 c.	£69	
Caustic Soda—		
Baltimore, 275 dms.		
Barcelona, 362 30 cks. 20 brls.		
Batavia, 10		
Bilbao, 31		
Calcutta, 42		
Callao, 50		
Christiania, 10 bxs.		
Corfu, 30		
Galatz, 75		
Genoa, 68		
Malaga, 130 100 kgs.		
Melbourne, 15		
Newfairwater, 132		
New York, 775		
Oporto, 75		
Para, 40		
Paysander, 50		
Pernambuco, 75		
Pt. Natal, 21		
Rangoon, 15		
St. Catherine, 70		
Samarang, 10		
San Francisco, 125		
Shanghai, 18		
Stettin, 60		
Sydney, 66		
Venice, 16		
Vigo, 10 brls.		
Wellington, 48		
Adelaide, 65		
Amsterdam, 33		
Bahia, 200		
Boston, 250 100		
Brisbane, 190 30		
B. Ayres, 31		
Catania, 66		
Cienfuegos, 15		
Corinto, 50		
Corunna, 1 cs.		
Dunedin, 3		
Hamburg, 478		
Ibrail, 52		
La Guayra, 20		
Messina, 15		
Naples, 40		
Pacasmayo, 100		
Paris, 68		
Parnahyba, 15		
Petrolia, 30		
Philadelphia, 350		
Pt. Elizabeth, 81		
Riga, 1,114		
Rotterdam, 15		
Salaverry, 132		
Seville, 602 24 brls.		
Singapore, 20		
Tampico, 200		
Toronto, 100		
Valencia, 80 25		
Vera Cruz, 30		
Chemicals (otherwise undescribed)		
Rotterdam, 1 t. 2 c.	£41	
Yokohama, 1 6 3 q.	44	
Genoa, 5	9	

Marseilles, 6		10
Montreal, 38 10 3		132
Philadelphia, 13 1		416
B. Ayres, 2 10		75
New York, 15 8 5		572
Barcelona, 10		8
St. Petersburg, 10		60
Stettin, 1 11		53
Konigsberg, 10		17
Danzig, 5		9
Antwerp, 12		20
China Clay—		
Barcelona, 100 bgs.		
Bombay, 662 cks.		
Boston, 405 t.		
Calcutta, 45		
Lisbon, 30		
Maranham, 6 6 c.		
Montreal, 200		
New York, 10 50 dms.		
Naples, 20		
Philadelphia, 25		
Chloroform—		
Valparaiso, 1 cs.		
Coal Products—		
Aniline Colours		
Boston, 1 kg.		
New York, 15 cks.		
Shanghai, 50 cs.		
Yokohama, 55		
Aniline Dyes		
Calcutta, 1 cs.		
Aniline Oil		
Boston, 15 dms.		
Aniline Salts		
Genoa, 1 t. 4 c.	£65	
Boston, 13 10	530	
Montreal, 2	85	
Piræus, 3 17	140	
Pitch		
Chantery, 253 t. 14 c.		
Ibrail, 20 brls.		
Rouen, 2 cks.		
St. Malo, 335		
Copper Sulphate—		
Calcutta, 7 t. 15 c.	£120	
Melbourne Bay, 5	80	
Naples, 3 10 1 q.	56	
Palermo, 8	126	
Pactica, 10 1	156	
Genoa, 15	155	
Barcelona, 5	76	
Halifax, 12 1	9	
Braila, 3	45	
Ibrail, 2	30	
Boston, 84 4 4	907	
Tampico, 30 1 3	474	
Melbourne, 5	85	
Sydney, 5	86	
Christiania, 1 13 3	26	
Rouen, 132 13 3	1,931	
Sevilla, 10 2	16	
Paris, 59 3 2	931	
Amsterdam, 1 10 2	24	
Leghorn, 7 6 3	113	
Copperas—		
Callao, 10 t. 14 c.	£20	
Alexandria, 7 14	12	
Smyrna, 6 6	10	
Bourgas, 3 16	5	
Quebec, 1 11	7	
Portland, Oregon, 43 4 3 q.	86	
Cream of Tartar—		
St. John's, 2 c. 2 q.	£7	
Disinfectants—		
Alexandria, 12 c.	£16	
Farina—		
Bombay, 5 bgs.		
Glue—		
Shanghai, 12 cs.		
Hydrochloric Acid—		
Rangoon, 2 t. 2 c.	£8	
Lime—		
Victoria, B. C., 1 t.	£7	
Manaos, 183 brls.	61	
C. C. Castile, 1	1	
Magnesia—		
Trieste, 1 cs.		
Pernambuco, 3		
Calcutta, 7 c.	£12	
Alicante, 1 t. 8	21	
Magnesium Chloride—		
St. Petersburg, 9 t. 18 c.	£24	
Magnesium Sulphate—		
Montreal, 15 kgs. 50 brls.		
Vera Cruz, 7 cks.		
La Libertad, 40		
Malaga, 1 t. 1 c. 3 q.	£5	
Naphthaline—		
New York, 1 t. 13 c. 1 q.	£325	

Ochre—

Kingston, Ja., 10 brls.

Lisbon, 31

Oxalic Acid—

Barcelona, 14 c.

Trieste, 1 t. 3 q.

Genoa, 1 16 1 38

Paint—

Bahia, 60 kgs.

Baltimore, 5 cks. 24

Boca, 8 cs.

Bonny, 5

B. Ayres, 60 dms.

Calcutta, 45

Cape Haiten, 2

Cienfuegos, 2

Guayaquil, 3

Havana, 2

Havre, 8

Iquitos, 7

Limassol, 2

Lisbon, 1 38 dms. 4 brls.

Manila, 16 cks.

Mendoza, 61

Opobo, 2 8

Pernambuco, 57

San Jose, 41

Sulina, 3

Tacna, 20

Trieste, 10

Vera Cruz, 8 cs.

Alexandria, 1

Algoa Bay, 5

Antwerp, 2 3 dms.

Beyrout, 50

Cartagena, 4 pkgs.

Demerara, 1

Galatz, 1

Hamburg, 1 20 1 tub

Ibrail, 3

Larnaca, 2

Mollendo, 5 8

Mossamedes, 2

Pimental, 1

St. Domingo, 22 1 brl.

San Juan, 35

Santa Catharina, 15 cs.

Sapeli, 9 dms.

Sierra Leone, 101 11

Singapore, 24

Painters' Colours—

Bordeaux, 2 bxs.

Boston, 1 ck.

B. Ayres, 101 cs. 81 kgs. 113 brls.

Cape Town, 1

Galatz, 50

Havana, 3 tcs.

Hong Kong, 10

New York, 10 932 brls.

Para, 17 52 07

Paris, 2 cs. 6 crts. 4

Parnahyba, 4 kgs. 3

Pernambuco, 15 5

Philadelphia, 5

Ponce, 2

Port Limon, 30

Rio de Janeiro, 30

Rotterdam, 1 dm. 5 16 1

Tampico, 3

Toronto, 3 bls. 25

Tripoli, 3

Valparaiso, 65 cs. 32 64 dms.

Yokohama, 8 brls.

Azim, 15

Baltimore, 15

Benguella, 4

Calcutta, 10 4 bls.

Cartagena, 4

Lagos, 4

Lisbon, 1 5 51

Mayaguez, 5

M. Video, 25

Opobo, 25

Pt. Elizabeth, 49

San Francisco, 2

San Juan, 2 tcs. 120 4 brls.

Santa Catharina, 97

Wellington, 568 pkgs.

Rangoon, 15 dms. 45 100 bgs.

Paraffin Wax—

Patras, 20 bgs.

Phosphorus—

Havana, 5 c.

Yokohama, 1 t. 15 437

Trinidad, 2 20

Ferrol, 2 q. 6

Hiogo, 4 8 2 1,095

Potashes—

Antwerp, 8 t.

Wellington, 11 c.

Potassium Carbonate—

Montreal, 5 c. 1 q. 46

New York, 17 t. 0 114

Rosen, 31 7 3 1,248

Chicago, 12 20

Potassium Chlorate—

New York, 53 t. 15 c.

Newfairwater, 2 15

Rostock, 1

Boston, 5

B. Ayres, 10

Helsingfors, 1 10

Rotterdam, 1 10

Antwerp, 1

Konigsberg, 5 15

St. Petersburg, 20

Gutjeffsky, 2 5

Hamburg, 1 10

Ghent, 1

Shanghai, 4

Bilbao, 5

Sydney, 8

Barcelona, 5 1 q.

Amsterdam, 4

Hiogo, 12 10

Stettin, 11 10

Laredo, 1

Vera Cruz, 4

Potassium Prussiate—

Rouen, 5 t. 15 c.

Sal Acetos—

Trieste, 5 c.

Salt—

Ambriz, 169 t.

Antwerp, 95

Baltimore, 505

Beaver Point, 200

Boston, 350

Calcutta, 9,503

Callao, 3 11 c.

Cameroons, 101 14

Cape Lahou, 11

Clarence, 9

Ghent, 440

Landana, 15

Montreal, 424 1/2

Muculla, 8 10

New York, 59

Old Calabar, 75

Para, 71

Pt. Natal, 285

Quebec, 150

Richibucto, 208

Rotterdam, 100

Salt Pond, 23

Valparaiso, 50

Algoa Bay, 5

Barbadoes, 100 5

B. Ayres, 16

Elsinore, 310

Lagos, 140

Miramichi, 399

N. Orleans, 101 6

Newport News, 50

Noqui, 113

Opobo, 40

Philadelphia, 199

Punta Arenas, 10

Sierra Leone, 50

Trinidad, 41

Coquimbo, 100

Salt Cake—

Baltimore, 50 t.

Antwerp, 50 2 c.

Saltpetre—

Pernambuco, 1 t. 8 c. 2 q.

Bilbao, 1 23

Callao, 1 13 38

Havana, 6 7

Syra, 1 19 3 45

B. Ayres, 2 23

Santa Catharina, 2 10 25

Para, 1 15 31

Sheep Dip—

M. Video, 7 t. 5 c. 2 q.

Dunedin, 2 32

B. Ayres, 5 16 100 dms. 232

Slag—

Guayaquil, 40 t.

Soap—

Algoa Bay, 361 bxs. 100 cs.

Bombay, 200 27

Cabenda, 230

Christiania, 31

Constantinople, 9

Corfu, 1

Falmouth, 20 4

Gijon, 11

Guayaquil, 500

Hamburg, 42

Kingston, Ja., 2,053

Lagos, 44

Lisbon, 10

Matadi, 56

Montreal, 9,100

Morant Bay, 200

New York, 30

Old Calabar, 300

Opobo, 1,120

Para, 300 1

Piræus, 90

Pt. Elizabeth, 1,140 52

Pt. Natal, 150

Rangoon, 762 16

St. Johns, 142

San Juan, 100

Shanghai, 6,650

Sierra Leone, 45

Talcahuano, 45

Trinidad, 1,193

Valparaiso, 18 kgs. 2

Victoria, 40 6

Alexandria, 590

Amsterdam, 590

Antwerp, 120

Barbadoes, 350

Bermuda, 60

Black River, 150

Boma, 200

Bonny, 250

Boston, 10 brls. 500

Calcutta, 2

Cameroons, 150

Cape Town, 1,470 15

Copenhagen, 120

Curacao, 213

Demerara, 1,452

E. London, 611 101

Gaboon, 150

Galata, 30

Gibraltar, 75

Gd Bassam, 20

Hong Kong, 650

Kurrachee, 500 12

Las Palmas, 52

Madras, 6

Malta, 30

Manaos, 670

Mandiji, 50

Mpongive, 80

Paris, 45

Parnahyba, 280

Penang, 10

Pt. Said, 1

Rotterdam, 50 crts. 6 dms. 844

San Fernando, 300 bxs.

Santa Cruz

De Tenerife, 30

Singapore, 1,887 50 kgs. 10

Ukaka, 70

Warri, 150

Soda—

Portland, Or., 100 kgs.

Soda Alkali—

Boston, 20 cks.

Corfu, 50 brls.

Genoa, 35

Ibrail, 35

Leghorn, 40

Piræus, 10

Soda Ash—

Antwerp, 300 bgs. 19 cks.

Calcutta, 30 brls.

Christiania, 100

Corfu, 1,040

Genoa, 200 2

Ghent, 25 140

Hamburg, 100

Hong Kong, 24

Leghorn, 3

Melbourne, 121

Montreal, 225 38 tcs.

Oporto, 18 9 brls.

Patras, 30

Puerto Cabello, 19

Riga, 100 55

Rio de Janeiro, 130

Rosario, 20

Rotterdam, 850 120

Salonica, 120

San Francisco, 38

Singapore, 10

Syra, 50

Bahia, 30

Baltimore, 7,590 21 364 tcs.

Bombay, 4

Boston, 600 102 51

Brisbane, 258 21 brls.

B. Ayres, 100

Copenhagen, 250

Lisbon, 8

New York, 2,248 504 394 tcs.

Philadelphia, 1,588 236 111

Rochester, 64

Smyna, 100 brls.

Wellington, 5

Soda Crystals—

Galatz, 20 brls.

Gibraltar, 25

Malta, 50 cks.

Montreal, 200 325 kgs.

New York, 118

Philadelphia, 470

St. John s, 10 bgs.

Alexandria, 300

Boston, 840 150

Sodium Bicarbonate—

Alex

MANCHESTER.

Week ending August 14th.

Alkali—	
Trangsund,	9 cks.
Valencia,	150
Alum—	
Beyrout,	10 brls.
Bombay,	41 cks.
Latakia,	15
Mersyne,	60
Ammonium Carbonate—	
Antwerp,	2 cks. 15 kgs.
Aniline Oil—	
Antwerp,	10 dms.
Boiler Composition—	
Alexandria,	10 cks.
Caustic Soda—	
Bombay,	20 cs.
Chemicals (otherwise undescribed)	
Cairo,	10 cks.
Creosote Salts—	
Treport,	59 cks.
Glue—	
Antwerp,	10 cks.
Linseed Oil—	
Alexandria,	20 brls.
Paint—	
Alexandria,	120 dms.
Painters' Colours—	
Bombay,	20 kgs.
Pitch—	
Antwerp,	100 t. 13 c.
Soap—	
S. John's, N.F.J.,	100 bxs.
Sodium Chlorate—	
Hamburg,	2 kgs.
Starch—	
Bombay,	5 cks.
Tar Oil—	
Antwerp,	10 cks. 2 dms.
Whiting—	
Bombay,	48 cks.
Zinc Chloride—	
Bombay,	18 cks.

HULL.

Week ending August 10th.

Alkali—	
Alexandria,	2 cks.
Ammonia—	
Bremen,	10 cks.
Benzol—	
Rouen,	50 cks.
Carbolic Acid—	
New York,	55 cks.
Castor Oil—	
Stockholm,	4 brls.
Caustic Soda—	
Harlingen,	18 dms.
Helsingfors,	8 cks.
Chemicals (otherwise undescribed)	
Antwerp,	1 cs.
Bremen,	7 cks.
Copenhagen,	9
Christiania,	25 pks.
Constantinople,	100
Gothenburg,	8
Hamburg,	15
Konigsberg,	2
Odessa,	50
Riga,	15
Rouen,	5
Rotterdam,	50
Stettin,	1
St. Petersburg,	45
Sevastopol,	1
Wyburg,	5
Cottonseed Oil—	
Antwerp,	200 c.
Amsterdam,	302
Bremen,	238
Drontheim,	41
Gothenburg,	101
Hamburg,	1,028
Rotterdam,	721
Dyestuffs (otherwise undescribed)	
Amsterdam,	1 ck. 16 dms.
Christiania,	30 bgs.
Hamburg,	1
New York,	20 cs.
Rotterdam,	1
Linseed Oil—	
Antwerp,	32 c.
Amsterdam,	98
Copenhagen,	42

Christiania,	541
Christiansand,	34
Drontheim,	28
Hamburg,	126
Helsingfors,	7
New York,	177
Logwood—	
Stettin,	146 bgs.
Manure—	
Dunkirk,	134 bgs.
Harburg,	826
Riga,	789 t.
Ochre—	
Rotterdam,	3 cks.
Painters' Colours—	
Antwerp,	53 cks. 6 cs. 2 dms.
278 pks.	
Amsterdam,	27
Bremen,	68
Copenhagen,	17
Christiania,	1
Drontheim,	10
Dunkirk,	10
Gothenburg,	1
Hamburg,	7
Harlingen,	1
New York,	459
Riga,	10
Rotterdam,	90
Stettin,	19
St. Petersburg,	38
Sevastopol,	16
Phosphorus—	
Antwerp,	24 cs.
Hamburg,	284
New York,	10
Stettin,	2 pks.
Pitch—	
Antwerp,	48 bgs. 151 t.
Drontheim,	16 kgs.
Salt—	
Hango,	40 cks.
Soap—	
Antwerp,	3 cs.
Christiania,	1
Hamburg,	1
Tallow—	
Rotterdam,	22 tcs.
Tar—	
Amsterdam,	6 cks.
Christiania,	10
Helsingfors,	76
Varnish—	
Antwerp,	2 cks. 6 cs. 1 dm.
Gothenburg,	4
Hamburg,	1
Harlingen,	1
Stettin,	11
St. Petersburg,	4

GLASGOW.

Week ending August 15th.

Ammonium Sulphate—	
Nantes,	55 t. 18 1/2 c.
Hamburg,	50
Baltimore,	51
Barcelona,	50
Malaga,	50
Valencia,	214
Barbadoes,	5
Canada,	17
Jamaica,	3
Asbestos—	
Rangoon,	14
Bleaching Powder—	
Baltimore,	36 t. 9 1/4 c.
China Clay—	
Bahia,	4 t. 6 1/2 c.
Chloride of Lime—	
U.S.A.,	
Coal Products—	
Benzine	
Bordeaux,	
Germany,	6 t.
Pitch	
Calcutta,	
Bergen,	
Constantinople,	
Russia,	
Antwerp,	236 t.
Montreal,	
U.S.A.,	
Tar	
Calcutta,	
Madras,	
Russia,	
Turkey,	
Christiania,	20 t. 8 c.
Rangoon,	
Tar Salts	
Antwerp,	125 t.

Coal Tar Products (otherwise un-

described)—	
Rotterdam,	4 t. 9 c.
Copperas—	
Madras,	£20
Iodine—	
Rotterdam,	£700
Linseed Oil—	
Talcabuanos,	1 t. 5 1/4 c.
Canada,	4
Paint—	
Calcutta,	£50
Cuba,	155
Kingston, Jam.,	120
Painters' Colours—	
Calcutta,	£72
Rio de Janeiro,	25
Santos,	24
Rangoon,	247
Paraffin Wax—	
Turkey,	£205
Valencia,	71
Rotterdam,	14 c.
Potassium Bichromate—	
Constantinople,	16 1/4 c.
U.S.A.,	12 t. 3/4
Antwerp,	4
Barcelona,	15
Rotterdam,	18 1/4
Rosin Oil—	
Rotterdam,	£40
Sheep Dip—	
Punta Arenas,	£50
Soap—	
Newfoundland,	1 t. 18 c.
Antigua,	4
Kingston, Jam.,	6
Puerto Cortes,	2
Trinidad,	6
Soda Ash—	
U.S.A.,	50 t.
Sodium Bichromate—	
Nantes,	5 t. 9 1/4 c.
Barcelona,	6
Starch—	
Antwerp,	£25
Sulphuric Acid—	
Rangoon,	£300
Tallow—	
Rotterdam,	12 t. 9 c.
Treacle—	
Christiania,	37 t. 13 c.
Rotterdam,	1

TYNE.

Week ending August 10th.

Alkali—	
Amsterdam,	13 t. 13 c.
Christiania,	6
Copenhagen,	1
Riga,	14
Ammonium Sulphate—	
Hamburg,	50 t. 8 c.
Rotterdam,	50
Riga,	10
Antimony—	
Antwerp,	1 t.
Rotterdam,	3
Barium Binoxide—	
Rouen,	10 t. 5 c.
Genoa,	5
Barium Carbonate—	
Rouen,	25 t.
Hamburg,	109
Barytes—	
Hamburg,	50 t.
Bleaching Powder—	
Amsterdam,	5 t. 2 c.
Hamburg,	25
Christiania,	21
Aarhus,	10
Rotterdam,	8
Odense,	10
Trondhjem,	11
Gothenburg,	10
Bergen,	2
Konigsberg,	6
Riga,	24
Borax—	
Aarhus,	14 c.
Caustic Soda—	
Amsterdam,	28 t. 7 c.
Rouen,	2
Toronto,	14
Naples,	5
Antwerp,	3 1/2
Genoa,	39
Copenhagen,	8
Gothenburg,	50

Linseed Oil—

Montreal, 4 t. 2 c.

Litharge—

Montreal, 15 t. 6 c.

Gothenburg, 4

Riga, 5

Magnesia—

Hamburg, 15 c.

Antwerp, 1 t. 5

Genoa, 7

Magnesium Sulphate—

Gothenburg, 1 t. 5 c.

Manganese—

Arendal, 16 c.

Ochre—

Christiania, 3 t.

Paint—

Hamburg, 1 t.

Salammoniac—

Genoa, 9 c.

Slag—

Rotterdam, 565 t.

Soda—

Amsterdam, 25 t. 1 c.

Antwerp, 5
Savona,	10
Christiania,	5
Iceland,	1
Trieste,	12
Rotterdam,	15
Trondhjem,	10
Gothenburg,	5
Smyrna,	24
Gefle,	40
Soda Ash—	
Christiania,	13 t.
Trieste,	5
Lisbon,	20
Gothenburg,	123
Riga,	6
Sodium Sulphate—	
Christiania,	10 t.
Odense,	1
Sulphur—	
Gothenburg,	50 t.
Superphosphate—	
Savona,	150 t. 1 c.
Memel,	52
Tallow—	
Rotterdam,	12 c.
Tar—	
Vadso,	4 t.
Aalesund,	2
White Lead—	
Montreal,	11 t. 13 c.
Lisbon,	12
Stockholm,	2
GOOLE.

Week ending August 7th.

Chemicals (otherwise undescribed)	
Ghent,	5 cks.
Hamburg,	17
Coal Products (otherwise undes.)—	
Dunkirk,	25 cks.
Ghent,	1
Rotterdam,	61
Colours—	
Boulogne,	1 ck. 1 cs.
Manure—	
Hamburg,	612 bgs.
Pitch—	
Antwerp,	157 t.

GRIMSBY.

Week ending August 10th.

Alkali—	
Dieppe,	2 cks.
Hamburg,	10 cs.
Chemicals (otherwise undescribed)	
Antwerp,	5 cks. 8 btls.
Hamburg,	1 cs. 16 pks.
Coal Products (otherwise undes.)—	
Dieppe,	175 cks. 2 cs.
Colours—	
Antwerp,	5 cks. 2 dms.
Hamburg,	3
Malmö,	8
Dyestuffs (otherwise undescribed)	
Dieppe,	9 cks.

PRICES CURRENT.

WEDNESDAY, AUGUST 21ST, 1895.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.B. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	9/-
Glacial	"	40/-	
Arsenic S.G., 2000°	"	0	15 0
Fluoric	per lb.	0	0 3¼
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
(Cylinder), 30° Tw.	"	0	3 0
Nitric 80° Tw.	per lb.	0	0 1½
Nitrous	"	0	0 1¼
Oxalic	nett	0	0 3¼
Phosphoric, 1750°	"	0	1 1
Picric	"	0	0 10
Sulphuric (fuming 50 %)	per ton	15	10 0
(monohydrate)	"	5	10 0
(Pyrites, 168°)	"	3	0 0
" " 150°	"	1	5 0
(free from arsenic, 145°)	"	1	6 0
Sulphurous (solution) S.G. 1025	"	3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric	"	0	0 11¼
Arsenic, white powdered	per ton	15	2 6
Alum (loose lump)	"	4	12 6
Alumina Sulphate (pure)	"	4	12 6
Aluminoferic	"	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	"	0	1 3
" 880=28° B.	per lb.	0	0 3
" =24° B.	"	0	0 2¼
Carbonate	nett	0	0 3¼
Muriate	per ton	22	10 0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	37/-
Nitrate	per ton	38	10 0
Phosphate	per lb.	0	0 7½
Sulphate (grey) London	per ton	9	5 0
(grey) Hull	"	9	5 0
Aniline Oil (pure)	per lb.	0	0 5¼
Aniline Salt	"	0	0 4¼
Antimony	per ton	31	10 0
" (tartar emetic)	per lb.	0	0 7
" (golden sulphide)	"	0	0 10
Barium Chloride	per ton	6	7 6
Carbonate (native)	"	3	5 0
Sulphate (native levigated)	"	42/6	to 65/-
Bleaching Powder, 35 %	nett	7	0 0
Liquor, 7 %	"	3	10 0
Bisulphide of Carbon	"	13	0 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	"	15/-	to 30/-

Coal Tar Products and Dyes:—

Alizarine (artificial) 20 %	nett per lb.	0	0 8
Magenta	"	0	3 9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	1 0½
Benzol, 90 % nominal	per gallon	0	0 11
50/90	"	0	0 11
Carbolic Acid (crystallised 40°)	per lb.	0	0 5¼
(crude 60°)	per gallon	0	1 7
Creosote (ordinary)	"	0	0 1½
(filtered for Lucigen light)	"	0	0 2
Crude Naphtha 30 % @ 120° C.	"	0	0 5¼
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	"	1	13 0
Solvent Naphtha, 90 % at 160°	per gallon	0	1 0
" Lucigen " and " Wells " Oils	"	0	0 2½
Copper	per ton	47	0 0
Sulphate	"	16	10 0
Oxide (copper scales)	"	41	10 0
Glycerine (crude)	"	16	10 0
(distilled S.G. 1250°)	"	42	10 0
Iodine	nett, per oz.	0	0 9
Iron Sulphate (copperas)	per ton	1	5 0
Sulphide (antimony slag)	"	2	0 0
Lead (sheet) for cash	"	12	10 0
Litharge Flake (ex ship)	"	13	15 0
Acetate (white)	"	22	10 0
(brown)	"	14	10 0
Carbonate (white lead) pure	"	16	0 0
Nitrate	"	18	15 0

Lime, Acetate (brown)	per ton	5	10 0
(grey)	"	8	5 0
Magnesium (ribbon and wire)	per oz.	0	2 3
Chloride (ex ship)	per ton	2	7 6
Carbonate	per cwt.	1	7 6
Hydrate	per ton	17	0 0
Sulphate (Epsom Salts)	per ton	3	0 0
Manganese, Sulphate	"	17	0 0
Borate	per cwt.	2	15 0
Ore, 70 %	per ton	4	5 0
Methylated Spirit, 61° O.F.	per gallon	0	1 10
Naphtha (Wood), Solvent	"	0	3 0
" Miscible, 60° O.P.	"	0	3 0

Oils:—

Cotton-seed	per ton	18	10 0
Linseed	"	22	10 0
Petroleum, American	per gallon	0	0 6½
Stearine	per ton	24	0 0
Phosphorus (yellow)	per lb.	0	2 3
(red)	"	0	2 8
Potassium (metal)	per oz.	0	3 7
Bichromate	nett per lb.	0	0 4½
Carbonate, 90% (ex ship)	per ton	17	0 0
Chlorate	per lb.	0	0 4½
Cyanide, 98%	"	0	1 6
Hydrate (Caustic Potash) 80/85 %	per ton	21	5 0
(Caustic Potash) 75/80 %	"	19	15 0
(Caustic Potash) 70/75 %	"	19	10 0
Nitrate (refined)	per cwt.	1	1 6
Pernanganate	per cwt.	2	17 6
Prussiate Yellow	per lb.	0	0 7½
Sulphate, 90 % (ex ship)	per ton	9	15 0
Muriate, 80 % (do.)	"	8	10 0
Silver (metal)	per oz.	0	2 6½
Nitrate	"	0	2 0
Sodium (metal)	per lb.	0	2 11
Carb. (refined Soda-ash) 48 %	nett per ton	4	15 0
(Caustic Soda-ash) 48 %	"	3	17 6
(Carb. Soda-ash) 48 %	"	3	15 0
(Alkali) 58 %	"	3	7 6
(Soda Crystals)	"	2	2 6
Acetate (ex-ship)	"	14	0 0
Arseniate, 45 %	"	11	0 0
Chlorate	per lb.	0	0 6½
Borate (Borax)	net, per ton	18	10 0
Bichromate	per lb.	0	0 3½
Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	"	9	7 6
(74 % Caustic Soda)	"	8	7 6
(70 % Caustic Soda)	"	7	10 0
(60 % Caustic Soda)	"	6	10 0
(60 % Caustic Soda, cream) (f.o.b.)	"	6	7 6
Bicarbonate	"	6	10 0
Hypsulphite	"	5	10 0
Manganate, 30%	"	16	0 0
Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7 10½
Nitrite, 98 %	per ton	29	0 0
Phosphate	"	14	10 0
Silicate (glass)	per ton	4	10 0
(liquid, 100° Tw.)	"	3	10 0
Stannate, 40 %	per cwt.	3	3 9
Sulphate (Salt-cake)	per ton	0	15 0
(Glauber's Salts)	"	1	5 0
Sulphide	"	8	0 0
Sulphite	"	5	5 0
Strontium Hydrate, 100%	"	8	10 0
Sulphocyanide Ammonium, 95 %	per lb.	0	0 6½
Barium, 95 %	"	0	0 4½
Potassium	"	0	0 2
Sulphur (Flowers)	per ton	6	5 0
(Roll Brimstone)	"	5	0 0
Brimstone: Best Quality	"	3	12 6
Superphosphate of Lime (26%)	"	2	7 6
Tallow	"	22	10 0
Tin Crystals	per lb.	0	0 5½
English Ingots	per ton	67	0 0
Zinc (Spelter)	"	15	7 6
Chloride (solution, 100° Tw.)	"	5	7 6

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ADVERTISEMENTS.

GLAR SUPPLIES of Chloride of Zinc red-
d by Incandescent Electric Lamp Makers. Offers and prices by letter
e of Advertising Offices, 163, Queen Victoria Street, London, E.C.

TED Tenders for 24 Salt Pans, 8 of which
be completed and ready for work on or before the 30th November
the 1st of February, and the remainder completed not later than the
1896. Specifications to be seen at the offices of Messrs. Bowman,
nd Co., Limited, Northwich, Cheshire.

Notices.

munications for the *Chemical Trade Journal* should be
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are invited to forward items of intelligence, or cuttings
newspapers, of interest to the trades concerned.

ications for the Editor, if intended for insertion in the
ek's issue, should reach the office not later than **Tuesday**

Advertisements.

Advertisements of Situations Vacant, Premises on Sale or To be Le
us Wants, and Specific Articles for Sale by Private Contract are
be *Chemical Trade Journal* at the following rates:—

30 Word and under	2s. 6d. per insertion
Each additional 10 words	6s. 6d. "

ertisements, Announcements in the Directory Columns, and al Adver
t prepaid, are charged at the Tariff rates, which will be forwarded on

ements intended or insertion in the current week's issue
ch the office by Thursday morning at the latest.

CURRENT TOPICS.

AGRICULTURE AND THE LAW.

ON comparing the present laws for the protection of agri-
culturists in England with those of other countries, it is
surprising that so little use should be made of them.

In Belgium they have laws, but not so effectual as our latest
legislation, and yet they appear to get far greater benefit
from their comparatively imperfect law than we do from a
much better Act.

In a period of five years—1888 to 1892—the State analyses
in Belgium show that the cases in which adulteration was
proven only amount to 0.5 per cent., as compared with 3 per
cent. in the preceding quinquennial period.

The recent return showing the working of the latest
Fertilizers Act in this country, reveals a far less satisfactory
state of affairs.

Our own law possesses one great advantage over those
of France and America, in that provision is made to prevent
the respective fortification or adulteration, by the seller or
buyer, of the sample to be analysed. Still the Belgian regula-
tions are virtually similar to our own on this point, and there-
fore the decrease in the adulteration of fertilizers in that
country is all the more creditable.

Elsewhere in this issue there is a reference to a fraud which
has been successfully operated quite recently. A mixture of
sand, sulphate of soda, and about 10 per cent. of salt is
undoubtedly iniquitously dear at 25s. per ton, even though it
does bear the name of "nitrated salt." But with such
ample means of protection so close at hand it is hard
to feel any sympathy for those credulous farmers who have
been caught. Their very existence is an encouragement to
such forms of fraud, and it is discouraging to find that a
single one should have been victimised. If farmers would
only lay to heart the wisdom of always buying upon the terms
of the Act of Parliament, they would *never* pay twelve times
the value of an article which, if it possesses any material
fertilizing power at all, could not in the wildest flights of
imagination be worth more than 2s. per ton.

The day of fancy prices is fast waning, and the proposal
emphasised by Dr. Petermann in his report to be presented
to the International Agricultural Congress next month, aims
at their further repression. The matter stands thus: Given
a guaranteed manure, which is well prepared, and comes well
up to the guarantee when analysed, how much is the seller
entitled to charge over and above the intrinsic value of the
fertilizing ingredients? In some cases very exorbitant prices
have been charged, but in the general run of things a vendor
is entitled to sell a sound article at the best price he can get.
It would seem to us that this is a point which cannot well be
controlled by law, but must be left for the buying public to
decide. If farmers knew more about the actual worth of
fertilizing materials, they would soon be able to gauge

whether a price is equitable or extortionate. It remains therefore to educate them up to this point, and in this country, at all events, the Highland Agricultural Society is doing its best in this direction. In the table of units which they prepare (and which is published in these columns), farmers have all the information they want, as well as instructions how to use that information. By its aid, the data, which they will receive from the analyst, is made plain and of practical use; while it is no exaggeration to say that a calculation based on the results of any competent analyst can be relied upon to give a price within 10% of the actual value of the active agents in the fertilizer. If only this simple method was practised more generally, we should have less complaints from agriculturists about worthless fertilizers and their fraudulent sale.

EMPLOYERS' RESPONSIBILITIES.

The Employers' Liability Bill has been the cause of much complaint among those who have cause to hire labour, whether skilled or unskilled. But things might be worse. Employés ought to be afforded due protection in dangerous, or even risky, occupations, and under our present legislation they are, even though on certain points employers may think the protectionary measures excessive and employés think the opposite. The thing appears over-done in Germany, however, and the employer, we should say, wants protection even more than the servant. Our reason for so thinking is based on the following decisions, which have been made recently upon questions of compensation for death resulting from causes directly traceable to the deceased's employment. A workman who brought some "distilled waters" to the works in a bottle for his own refreshment, died through mistaking his own bottle for one containing hydrochloric acid. The decision went against the employer. A labourer suffering from injured fingers was sent away to a medical institution for his benefit and cure. He contracted cholera, however, and subsequently died. It was found to be the employer's fault. A man was buried by a "slip" at a stone quarry, which so excited one of his fellow workmen, who suffered from palpitation of the heart, that he died from over excitement. The employer was held to be responsible for both deaths. Fortunately, all these cases occurred in Germany and not in this country. The former country has the advantage of us in technical education and one or two other matters, but there is substantial consolation in the knowledge that at least we are spared their employers' liability laws.

SENSIBLE FINES FOR MILK ADULTERATION.—At Southwark Police Court, on Tuesday, David Jenkins, of Guy-street, Bermondsey, and Joseph William Bramley, of Weston-street, Bermondsey, were summoned under the Sale of Food and Drugs Act, at the instance of Mr. Henry Thomas, inspector to the Bermondsey Vestry, for having unlawfully sold milk adulterated with added water to the extent of 19 and 18 per cent. respectively. The cases having been proved, Mr. Fenwick fined Jenkins, against whom there were previous convictions, £20. and 12s. 6d. costs, and Bramley £3. and 12s. 6d. costs.

CHLORATE OF POTASH BY ELECTROLYSIS.—The electrolytical manufacture of KClO_3 has now been in progress in Switzerland nearly five years, the motive power being a waterfall 70 meters high. As yet, of the total yearly European output of about 8,000 tons of chlorate of potash, over 5,000 tons are contributed by the United Alkali Company, Limited. The electrolytic process in use in Switzerland is based upon Gall and Montlaur's process, in which a concentrated solution of chloride of potash is decomposed in a double vat, divided by a diaphragm, but so connected to insure regular changing of the liquid from the negative to the positive compartments. The electrolysed solution is heated to from 45 degrees to 55 degrees C., thus changing hypochlorite into chlorate. The cathode is of iron or nickel, the anode of platinum or of iridio-platinum. The current is equal to fifty amperes per square decimeter of electrode.

Parliamentary Jottings.

PETROLEUM MOTORS.

In the House of Commons, on Monday, Mr. MACDONA, asked President of the Local Government Board whether he was aware a petroleum motor owned by the Hon. Evelyn Ellis, which won first prize in the recent horseless carriage race between Paris and Bordeaux, had since then travelled in this country from Michelsdatchet, a distance of 56 miles, in five and a half hours, at a halfpennyworth of petroleum per hour, carrying four persons; time; whether, in view of the fact that this new cheap motor be made use of by farmers and others in bringing their produce to their markets at an extremely reduced rate, he would consider the desirability of repealing the Locomotive Act of 1865, so as to allow petroleum and electric motors being more extensively used in the country.

Mr. CHAPLIN promised to consider the matter in connection with a bill introduced last session by Mr. Shaw-Lefevre.

IMPERIAL POSTAGE STAMPS.

Last week, Mr. H. HEATON asked the Postmaster General whether he was aware that there was a general demand for an international or at least an Imperial, postage stamp; and whether, in the absence of this stamp, he would set apart a room in the new General Post Office and also a room in each of the more important post-offices of Liverpool, Manchester, Birmingham, Edinburgh, Glasgow, Dublin, &c., for the sale of the postage stamps of the colonies of the Empire might be put in order to give facilities to the public to send stamped letters to the colonies.

Mr. HANBURY said the Postmaster General was not aware of any general demand either for an international or for an Imperial stamp, though there was a certain limited demand for such a stamp as a means of prepaying the postage of replies to letters sent to the colonies. The Postmaster General did not feel he would be justified in making arrangements for the sale of colonial stamps (for which he also has no effective demand here), especially as such stamps would probably be used for remitting small sums of money to the colonies.

THE GOVERNMENT AND THEIR EXPLOSIVES.

THE Smokeless Powder Co. (Ltd.), through their secretary, Mr. G. Duff, has made public the following correspondence which has recently passed between the War Office and Admiralty and the company, bearing on the question of smokeless powder. The letter was from the secretary of the Smokeless Powder Co. enclosing copies of two resolutions passed at a board meeting on July 9th. The first resolution ran as follows:—"Resolved—That reference be made to the question of an increase in the reserves of ammunition, and to the fact that the 'rifleites' manufactured by the company at Barwick Works, Herts., have satisfactorily undergone some years the severest tests at home and abroad in the Maxim and in the Gardner machine guns (having, for example, been adopted in preference to other powders for the States naval rifle of '236 bore), and are also held in highest esteem by experts, and are accepted and approved by all the British ammunition manufacturers, the directors are of opinion that this company has diligently earned and deserves some recognition at the hands of His Majesty's Government, and express a hope that it may receive of the orders to be given out for powder for small arms ammunition. The other resolution related to the forwarding of the foregoing various high officers of State. In answer to this letter the following reply was received:—"War Office, Pall-mall, S.W., July 17th, 1901. Gentlemen,—With reference to your letters of the 9th inst. addressed to the Secretary of State and to other officials of the War Department, on the subject of 'rifleite,' I am directed by the Secretary of State to refer you to the previous replies from this office to your applications, in which it was definitely stated that Cordite had been adopted, it was not intended to make further experiments with any other description of smokeless powder, and to say that his Majesty's Government sees no reason to alter that decision.—I am, gentlemen, your obedient servant, ARTHUR HALIBURTON." Other letters acknowledging receipt of the company's letter were received. On August 1st another letter was sent by the company to the Under Secretary of State for War, setting forth at some length the views of the company on the subject of cordite—(a) shall not compete with private trade; (b) shall not be supplied to foreign powers; (c) shall not be used for sporting purposes—i.e., for deerstalking, grouse, partridge, and rabbit shooting; (d) shall not be retailed in cartridges by gunshops; (e) that any of the colonies desirous of adopting and purchasing cordite shall not be prohibited from doing so; (f) that cordite may be used for the uses for which it was originally produced by the Explosives Committee—viz., to those of the Army and Navy."

The Patent List.

It is compiled from Official sources in the Manchester Laboratory, under the immediate supervision of Davis and Alfred R. Davis, who report professionally on the value of Chemical Patents.

INVENTIONS FOR ENGLISH LETTERS PATENT.

Inventors in Apparatus for obtaining Cyanides from Gases. W. and P. F. Holmes. 15,168. August 12.
 Process for obtaining Salt, &c. T. Scott. 15,197. August 13.
 Galvanisers' Flux Skimmings. A. Wolf and W. S. Blythe. 15,326. August 15.
 Process in the Production of Calcium Carbide. T. L. Willson. August 15.
 Process for Generating Acetylene Gas. J. H. Exley. 15,402. August 16.
 Process in Acid Pumps. E. P. Peyton. 15,425. August 16.
 Process in Soap Holders. J. R. Ervey and G. W. Gilham. 15,465. August 16.
 Peat for Production of Fuel, Artificial Wood, Marble, &c. Strong. 15,488. August 17.
 Complex Ores for the Separation of Gold, Silver, and Lead. Claus, jun. 15,518. August 17.

ACTS OF LATEST COMPLETE SPECIFICATIONS.

Abstracts are specially prepared for the Chemical Trade Journal. RIGHTS OF PUBLICATION ARE RESERVED. This is the earliest abstracts of Chemical and allied patents accessible to the public.

Improved Manufacture of Artificial Indiarubber, Gutta-percha, and other Suitable for Conversion into Varnish. A. V. Newton, 6, Malakoff, Paris. Eng. Pat. 15,914. August 21, 1894.

This patent (20,234/93) describes the manufacture of artificial rubber by dissolving nitro-cellulose or its equivalents in non-volatile and non-explosive solvents such as nitro derivatives of chloro and bromo derivatives of the aforesaid hydro-carbons, in oil, the various ethers of oxalic, lactic, tartaric, citric, acids, as well as the chloro, bromo, nitro and similar derivatives ethers. Also glycerine ethers of acetic, benzoic, and other acids, and ethers of nitro-phenols. All the solvents are not equally efficient, but when mixed with the more suitable can be advantage for various purposes. Seven different mixtures of solvents are detailed as examples. The conversion into a varnish is effected by the addition of an easily volatile solvent such as acetone, ether, or alcohol. Barytes or other finely ground mineral substance is added to vary the stability and elasticity, and also to reduce the cost of initial production.

Improved Process for Electrolysing Chemical Combinations for obtaining the Products of Decomposition formed by the Electrolysis. W. Bein, 36, Schapferstrasse, Berlin. Eng. Pat. 21,838. December 12, 1894.

It is known that diaphragms only partially accomplish their purpose from their producing resistance and causing expense by destruction. This patent proposes to use the intermediate diaphragm, formed during the electrolysis, to keep the products of electrolysis formed at the anode and cathode separate. It has been found, though the separating layer grows smaller the longer the electrolysis is continued, still no intermingling takes place. The diaphragm is rendered noticeable by suitable means, and when on of disappearing an impervious partition is introduced, or the products of the decomposition drawn off by suitable cocks. Three different ways of constructing the decomposing cell, so as to effect this method of procedure.

Process in Refining and Separating Wool Fat into Sundry Useful Parts. E. Maertens, Narragansett Hotel, Rhode Island, U.S.A. Eng. Pat. 9,503. May 14, 1895.

Wool fat is separated into several products, obtained by means of varying solubilities in acetone and alcohol. The products are for part white or yellowish white waxes, some, however, being yellow. The fat is treated with acetone, forming a soluble portion, and both of which constitute products. The acetone solution is used to remove the solvent, and the residue is treated with alcohol which dissolves a portion, leaving another residue, the solution in turn yielding another product after the removal of the alcohol solvent. The same products can be obtained by another treatment, in which alcohol is used as the first solvent, and the residue further subdivided by means of acetone.

Improvements in and Relating to the Extraction of Silver from its Ores. J. J. Crooke, 40, West Forty-sixth street, New York. Eng. Pat. 12,391. June 25, 1895.

This is an improvement on the well-known Augustin process. In brief, the ores, after being roasted with salt, are leached with a hot aqueous solution of sodium chloride, nitrate of copper, and sulphuric acid; and the silver recovered by exposing to the action of metallic copper, in the form of a filter, containing also a few plates of iron. The treatment when the ores contain lead is the same, with the exception that care is taken to avoid the presence of enough sulphuric acid to precipitate the lead as sulphate. In this way it is left in the form of chloride, and so passes the filter. One drawing shows the complete plant.

Improvements in and Relating to the Extraction of Gold and Silver from their Ores. J. J. Crooke, 40, West 46th-street, New York, U.S.A. Eng. Pat. 12,390. June 25, 1895.

Chlorination is the principle underlying this invention. The improvements constitute the different methods of applying this process. Several methods are described, which in general may thus be summarised:—A plasma containing pulverised ore, an alkaline chloride, and nitrate of copper, is subjected to the action of a chlorine liberating acid under agitation. The gold is obtained as chloride, the silver as a double chloride of silver and the alkali, and the copper as hydrated cupric chloride. All three are precipitated from solution by exposure to soft iron plates. A second method is conducted in exactly the same manner, with the addition of a percentage of manganese oxide. In a third the plasma of ore, with alkaline chloride and oxide of manganese is treated under agitation, with a hot acidulated aqueous solution of copper nitrate and sodium chloride, the chlorine-liberating acid being finally introduced. The accompanying drawing shows the plant in sectional elevation.

Improvements in Filtering Apparatus. P. E. Hodgkin, 63, Queen Victoria-street, London, E.C. Eng. Pat. 16,914. September 5, 1894.

The filter is intended to deal with mixtures of oil and water. A number of separate cylindrical filters are coupled to form a filtering battery charged from a universal supply pipe, and discharging into a main delivery pipe. Each cylinder contains a perforated copper tube lined with filtering cloth. The top of the copper tube passes through a diaphragm into a charging dome from which the tube is filled, the filtered material collecting in the annular space between the external cylinder and internal perforated filter tube. Any oil which may rise to the top during the filtering operation is drawn off through a suitable cock. The four drawings explain themselves.

Improvements in Coke Ovens. A. D. Shrewsbury, Charlestown, West Virginia, U.S.A. Eng. Pat. 14,196. July 24, 1894.

This patent provides for the even distribution of air over the charge in coke ovens, simultaneously heating the air so distributed. This is effected by means of a specially constructed double dome. The use of steam jets for introducing steam into the bed of coal; the placing of electro-negative and positive elements in the combustion chamber above the bed of coal and in the gas conduit; and means for condensing the gases in the conduit are also included in this invention. Eight drawings show the arrangement of these several devices.

Improvements in and Apparatus for Enriching Gases by Liquid Hydrocarbons. P. Dvorkovitz, 16, Bishopsgate-street Without, London. Eng. Pat. 18,078. September 22, 1894.

The liquid hydro-carbon passes down a vessel containing a series of trays in which it forms a number of successive layers, up through which the gas to be enriched is caused to pass, being sufficiently heated to enable it to efficiently take up the enriching constituents from the liquid hydro-carbon. There are three drawings giving details.

MINING ENTERPRISE IN PORTUGAL—German capital is to be employed in mining in Portugal. The Duero Gold Mining Company has been formed for the purpose of extracting the yellow metal from the auriferous quartz of the antimony mines in the neighbourhood of Oporto.

RIVER WEAR RETURNS.—The trade return for July of the River Wear Commissioners shows that 566 vessels, representing in the aggregate 224,203 tons, and paying dues to the amount of £2,470. 13s. 11d., cleared from the port, being a decrease of 52 vessels, 22,720 in tonnage, and £181. 9s. 5d. in dues, as compared with the same month of 1894. The total quantity of coal shipped was 379,864 tons, being a decrease of 5,547 tons on July last year. The total revenue for the month amounted to £11,990. 15s. 1d. as against £11,905. 4s. 4d., being an increase on the corresponding period of last year of £85. 10s. 9d.

Modern Oil Engines.

THE development of oil engines during the past decade has been steady, and the comparatively unostentatious way in which progress has been made is, if anything, a good feature. Having ultimately proved themselves practical and useful machines, especially as a source of small power, they undoubtedly have come to stay. Already they are used in many fields of labour, notably in agriculture, and the many trades in which limited power is required. In this latter category, such trades as mineral-water making, printing, brewing, butter-making, and other dairy factory work, electric lighting and wood working are included.

The question of oil as a motive power is certainly fast growing in importance. As a fuel for boilers it also assuredly has a future. Yet, furthermore, there are not wanting instances that point to a new and still wider scope for oil motors, for propelling small craft, and, in time,

The oil on its way to the vapouriser from the pump passes through the valve box attached to the vapouriser.

This valve box has two valves in it, both kept closed by springs of these the oil forces open as it goes into the vapouriser; the should the engine run too quickly, is opened by the governor allowing some of the oil to run back to the tank.

This valve can also be opened by turning the little regulating handle provided (V), which will stop the supply of oil to the vapouriser and stop the engine. These particulars can best be followed from Fig. 2 and the general appearance gathered from Fig. 2.

The action of the engine generally may be explained as follows. The vapouriser having been previously heated and the flywheel pulled round, the first outstroke of the piston thus made will draw air to be drawn into the cylinder, and at the same time the pump force oil into the vapouriser, the oil being transformed into oil vapour by the heat of the vapouriser. On the return stroke of the piston air is compressed into the vapouriser, and thereby mixed with the

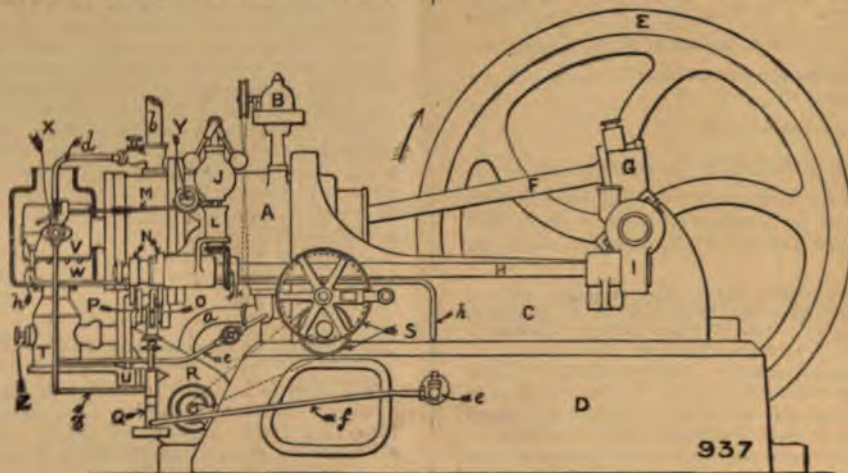


FIG. 1.

road vehicles. The petition which has been presented to Parliament in conjunction with the 1,000 guinea Road Carriage Competition which has been inaugurated by our enterprising contemporary the *Engineer*, gives every promise of opening up a wide field for experimenters to work upon. The oil engines that are now doing good service will most probably form the basis of the smaller motors which we anticipate will be so largely used in the future; and seeing that the present engines in themselves are full of interest to users of power who have hitherto been dependent upon steam or gas, we have compiled, for the benefit of those interested, a series of articles on the leading oil engines of to-day. No attempt at classification is made, but a description of the chief features of the engines will be set forth along with other correlated particulars, so that reference may be made to all and the best for any special purpose, under individual circumstances, selected.

THE HORNSBY-ACKROYD

patent safety engine is the one which we illustrate and describe this week:—

This engine is constructed with a working cylinder, closed at one end by a cover, and open at the other. In this cylinder the piston works, being formed like a plunger, and open at one end to receive the end of the connecting rod. The connecting rod is attached at its other end to the crank. Near the closed end of the cylinder a valve box is fitted which contains two valves, one being the air valve and the other the exhaust valve. The air and exhaust valves are opened by separate levers, each lever being moved by a cam mounted on a horizontal shaft driven by the crank shaft through skew or bevel wheels. This horizontal shaft makes only one revolution whilst the crank shaft makes two, so that the air and exhaust valves are each opened only once in every two revolutions.

At the back of the cylinder is a cast-iron box called the vapouriser, which is always open to the cylinder through a neck.

This vapouriser is heated before starting the engine by an external lamp, blown by a small hand fan, for a few minutes.

This is done so that the vapouriser shall be able to gasify and explode the oil when it is pumped into it.

After the engine has started running the lamp is no longer required, the vapouriser being kept sufficiently hot by the explosions which take place in it.

A small oil pump, worked by the air valve lever, draws oil from the oil tank under the engine and forces it into the vapouriser. This takes place only during the outstroke of the piston when it is drawing in air.

vapour, and just as the piston gets to the end of its stroke an explosion takes place which forces the piston out on its second outstroke. When the piston gets to the end of this stroke the exhaust valve opens, the return stroke expels the products of combustion, the same of operations being repeated continuously.

The speed of the engine is governed by a small Porter governor which acts through levers on an overflow valve, fitted in the valve attached to the vapouriser, so that when the engine runs too quickly the valve is opened by the governor and the oil allowed to return to the tank instead of going into the vapouriser. The vapouriser gets little or no oil, the speed of the engine is thus checked and regulated. Any oil can be used, preference being given, however, to good Russian lamp oil. No benzoline or other very light spirituous oil necessary to operate the engine. No lamp being used to keep igniters hot, every drop of oil consumed, after starting, is employed to generate power. The absence of all flame, during work, insures greatest safety; and there being no necessity for an electric battery to provide a spark to fire the vapour, the presence of a practical man attend to the battery, and to daily adjust certain parts, is unnecessary while the cost and inconvenience of having to provide and store oil &c., are entirely obviated.

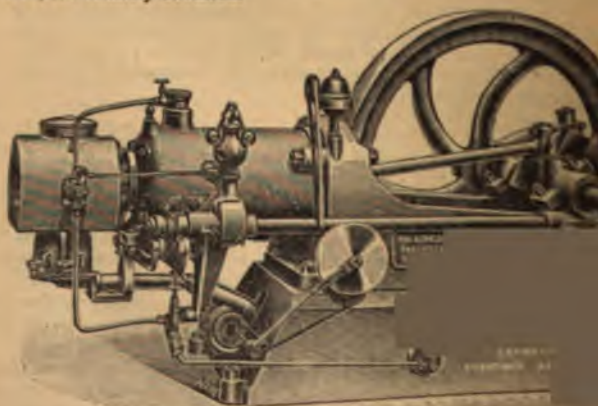


FIG. 2.

the course of a trial made by Prof. W. Robinson with a 5 brake engine, it was found that working at full and half loads under ordinary conditions, the cost of Russoline Oil used per hour was only less than a halfpenny per effective H.P. per hour.

When engine stopped, all bearings were quite cool—none more than arm. Throughout the trial the exhaust gases escaping from the engine were mostly colourless, and at rare intervals a puff of light smoke was seen. A sheet of white paper held against the exhaust pipe for minutes was not marked or dirtied in any way.

During this trial the engine ran very smoothly. The speed was very steady, readings of the counter over periods of fifteen minutes' duration showed the greatest variation in speed was only about one per cent. Throughout the trial without load the engine speed was kept very steady; the engine ran with perfect ease, and marked economy was effected in the oil consumption by the action of the governor, which controlled the action beautifully. The vapouriser remained as cool as during full load test.

During variations in speed during the trial were exceedingly small, the engine running smoothly and steadily. The indicator cards show conditions of working, and the above results were, in the opinion of Professor Robinson, most satisfactory.

displace the air in the collecting tube for about five minutes before the glass tube was sealed by the blow-pipe flame. During this time, a considerable amount of steam condensed in each glass tube—the capacity of which was 50 cubic centimetres—and formed about a third of a cubic centimetre of water. The results of analysis show that the exhaust gases consisted mainly of steam, carbonic acid, oxygen, and nitrogen, no traces of carbonic oxide being detected. These products indicate the complete combustion of the oil, and an excess of air. The following are the analyses:—

	A.	B.	C.
CO ₂	8.60	8.86	8.73
CO	0.0	0.0	0.0
Olefines, etc.....	0.0	0.0	0.0
H.	0.0	0.0	0.0
O	9.32	8.86	9.09
N	82.08	82.28	82.18
	100.00	100.00	100.00

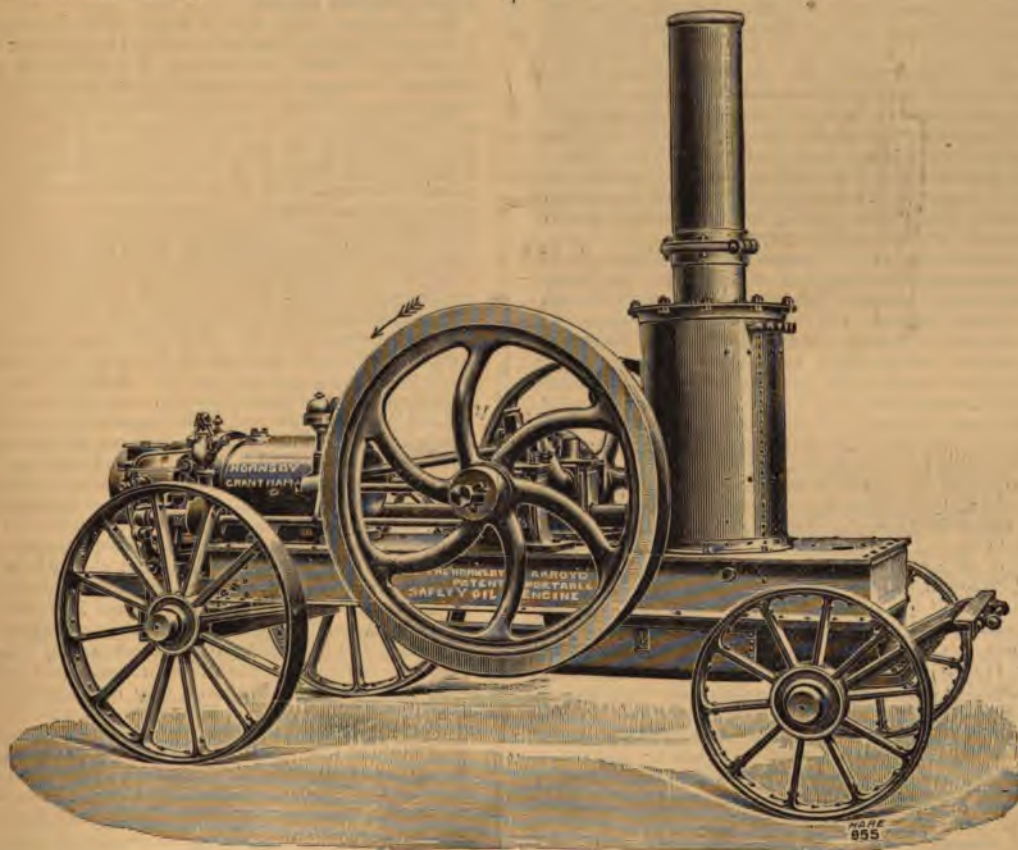


FIG. 3.

The oil engine was driving an electric lighting dynamo much too fast for the engine, so that the dynamo was working under very untoward conditions as regards economy. The reading of the Evered meter and voltmeter was checked by a Siemens' electro-magnetometer and Cardew voltmeter, which were carefully calibrated. The dynamo supplied current to incandescent lamps in the testing-rooms and offices; the load of lamps was increased during the test, but the voltmeter did not show a greater variation than half a volt from normal pressure. This small variation in electric pressure could not be detected by looking at the glow lamps. At the end of trial the engine was drawn, and the cylinder was found to be perfectly clean, with no trace of tarry products.

The question of exhaust gases is, of course, important, and the following information, obtained in another trial, throws light on this

At the beginning and middle, samples of the escaping gases were drawn for analysis. The gases were drawn from the exhaust pipe at about 10 feet from the cylinder, in each case the gases were allowed to

The portable type (Fig. 3), which is made in various sizes, is mounted on a channel iron frame having a wrought iron water tank suspended underneath it. From this, for the purpose of cooling the cylinder, is pumped a small quantity of water, which, after passing through the cylinder jacket, is carried to a cooling tank, down which the water falls, meeting a current of cold air, secured by a blast created by the exhaust into the chimney, thus cooling it, preparing it for being used over again for the purpose named. Thus the usual arrangement of having to employ a large tank full of water is entirely dispensed with, and the total weight of the engine is very materially decreased.

Messrs. Hornsby and Sons, Ltd., of Grantham, who are the makers of these engines, are now making the portable engines in sizes of 3½ Brake H.P. up to 20 B.H.P. On the average the cost is about 0½d. per B.H.P., but, of course, the cost varies with the price of oil. The striking feature in the many testimonials which have been given is the repeated manner in which the absence of any need for skilled labour in working is borne witness to.

Legal Intelligence.

JUDICIAL COMMITTEE OF THE PRIVY COUNCIL.

(Present: Lords Watson, Hobhouse, Macnaghten, Davey, and Sir Richard Couch).

IN THE MATTER OF BARFF'S AND BOWER'S PATENT.

This was a petition for prolongation of a patent presented by the Bower-Barff Rustless Iron Company, Ltd., as assignees under the following circumstances.

On the 28th of July, 1881, a patent (No. 3,304 of 1881) was granted to Frederick S. Barff, George Bower, and Anthony S. Bower, for "Improvements in effecting the protection of iron and steel surfaces, and in the furnaces employed therein."

Before the date of the patent, the patentees severally obtained patents for processes for forming on iron a coating of magnetic oxide of iron, which preserved the metal from rust. From various causes these inventions were commercially unsuccessful.

The patent in question remedied the defects in the previous processes, and was of great merit. By it, the previous processes were made successful, and the cost reduced by 75 per cent. Articles treated by this process were in common use amongst French peasants, and pipes treated by it were used in the United States in lieu of lead water-pipes.

The patentees also obtained patents in the United States, India, Canada, Germany, Russia, France, Belgium, Austria, Norway, Sweden, and Italy. Those taken out in the United States and India were still in force, the Canadian, German, and Russian, had expired in 1892, but no information had been obtained as to the duration of the others.

Before the 5th of August, 1881, F. S. Barff agreed to sell his interest in the above-mentioned patents, and all improvements in the inventions, to G. and A. S. Bower, for £10,500., and by another arrangement R. Nesham acquired certain interests in these patents.

By an agreement, dated the 5th of August, 1881, G. Bower, A. S. Bower, and R. Nesham, agreed, amongst other things, to sell to the Bower-Barff Rustless Iron Company, Ltd., the earlier patents, for the sum of £75,000. (cash £25,000., and fully paid-up shares to the nominal value of £50,000.); and to assure to the company the patent in question as soon as it was granted; and that G. Bower should be managing director of the Company, at a salary of £1,000. per annum.

The Bower-Barff Rustless Iron Co., Ltd., was incorporated on the 9th of August, 1881, with a capital of £250,000., with the object, (*inter alia*), of carrying into effect the agreement of the 5th of August, and acquiring and working the said patents.

By an agreement, dated the 30th of November, 1881, the preceding arrangement was modified. The purchase money to be paid by the company was reduced to £50,000. (cash £15,000., and shares £35,000.). The cash portion was subsequently reduced to £10,000., and the vendors subscribed for 512 ordinary £10. shares, 409 of which were forfeited for non-payment of calls, and on the 103 remaining, calls amounting to £223. 5s. remained unpaid. The fully paid-up shares were duly allotted to the vendors.

On the 16th of March, 1892, the patents (including No. 3,304 of 1881) were assigned to the company. By an agreement of the same date, F. S. Barff was appointed consulting chemist to the company, at a salary of £100. per annum, and arrangements were made in accordance with which the £10,500. due to him were subsequently paid off. He died in 1886.

In 1882, the company took premises in London, and erected furnaces, but failed to get the invention taken up, and closed their works in 1889.

After 1889, the company worked the invention solely by licences granted on various terms to eleven parties, of which four alone remained in force. Considerable expense was incurred, and no dividend was ever paid. The company never had any transactions in relation to the foreign or colonial patents, which had been sold by the patentees themselves.

The company presented a petition for an extension of the patent (No. 3,304 of 1881).

Mr. F. Moulton, Q.C., for the petitioners, explained the nature and great merits of the invention. The learned counsel commented on the facts disclosed in the petition, and argued that the receipt of payment from the company by the original patentees was no objection to granting a prolongation. [Lord Watson: There ought to be always a statement in these cases—having regard to observations that have been made by this Board from time to time—when a company come as petitioners, as to whether any, and, if so, what, dealings have taken place in the shares. In one case, we dismissed an application because it appeared that the individual members of the company had benefited themselves by the sale of shares.] The company here acquired the patents at a price in a *bona-fide* manner; they believed in the merits of the invention. It is now only being fully appreciated by the public. In the case of Lyon's patent there was no commercial success till the end of the original term. The learned counsel examined the accounts in

detail, to show that the invention had been worked at a loss. [Watson: Is there any precedent for granting an extension where patentee has been paid? (Morgan's patent). There is no authority the proposition that the assignee stands in the patentee's shoes.] very difficult for a patentee to introduce an invention; hence assigns to those who have the means of bringing it before the public subsequent assignees would not be in the same position. If the assignees are deprived of all prospect of obtaining a prolongation, the market is spoiled for meritorious inventors. The position of patentee and the assignee who brings the invention, by necessary expensive experiments, should be considered together; hence, consideration given to patentee should not come in as real profits.

For the Crown it was submitted that—First, there was no state in the petition of the profits made by the patentees themselves; they are mentioned in the accounts, but there is no clear statement thereof. There is no case in which a patent has been prolonged where original patentee was fully remunerated (Claridge's patent). Prolongation is granted solely for the benefit of the inventor (Norton's patent). Secondly, one of the patentees was a licensee; and attempt is made to show licensee's profits. Thirdly, these profits are used by foreigners; hence, the British manufacturer would be injured (Pieper's patent).

Mr. Moulton, Q.C., said in reply: The Act defines a patent as "the person for the time being entitled to the benefit of the patent" (section 46); hence, an assignee is included in section 25. [Lord Watson: Assignees were expressly mentioned in the preceding Act. Assignees cannot now be worse off than before. (Lord Watson: the words "all the circumstances of the case" (sub-section 4) is your argument.) In the case of Napier's patent, prolongation was granted to an assignee alone; and, in Bodmer's patent, terms were asked to be imposed on the petitioners in favour of the patentee, that request was refused. (Lord Watson referred to Pitman's patent.) The distinction here, is that the petitioners were assignees from beginning, and were the workers of the invention. It is of benefit importance to inventors to be able to have assignees who will bring an invention. Lord Brougham (in Berry's patent) alluded to classes of benefactors—the inventors, and those who expended money in bringing out inventions. (Lord Watson: The benefit of a prolongation has never been extended to an assignee solely.) Berry was the inventor—only a patent agent. (Lord Davey: The persons I Brougham spoke of were importers, and, therefore, inventors in law.)

Lord Watson: The petition in the present case appears to be defective in substance, inasmuch as it does not disclose upon the face of it with sufficient distinctness the amount of profits, if any, which have been made by the inventors, the original patentees, in these different countries in which they have secured an exclusive right. At the same time, their lordships would not have been disposed to lay a great stress upon that objection to the petition, because the accounts have been duly lodged do show that clearly to a certain extent, to a certain extent only. The accounts do in the opinion of their lordships disclose the fact that the original inventors have received substantial remuneration. They have sold their patents in Great Britain, France, and in America for sums amounting to in all £30,000; even after permitting a deduction for those items claimed as deducted there still remains to the good a very considerable sum of money. It must be borne in mind that if the patentees were here claiming the extension they would be obliged to account for the profits which have been made in France or in America by the use of the patent during the continuance of the American patent and the French patent. But the more important question which arises in this case appears to be whether the petitioners—the Bower Barff Rustless Iron Company Limited—who are the assignees of the British patent, are in a position to maintain this application for the extension of the patent. In cases of Claridge's Patent and Norton's Patent appeared to their lordships to establish the principle that an assignee who has acquired a patent that is the subject of a commercial adventure is not entitled to obtain a prolongation when the inventor could have no legitimate interest in making such an application himself. In one of those cases the decision of the Board went expressly upon the ground that the applicants were a commercial company, and that the original inventor was dead and could have no further interest in the patent. In the case of the original patentee, the inventor, is alive, but is for all practical purposes—for all purposes of the present question—in the same position as if simply dead, because he will no longer have any interest in asking for a prolongation on his own account, because he had been sufficiently remunerated at the expense of the patent. Now, it is no case to be found in which this Board has given an extension of a patent to an assignee which did not directly or indirectly tend towards the benefit of the original inventor, who would, if there had been no assignment, have been in a position to claim an extension himself. In this case the inventors are not in that position, and their lordships do not see any reason for departing from the principle already recognised by the Board in similar applications, they humbly recommend her Majesty that this petition should be refused.

Reports of Companies.

BRUNNER, MOND AND COMPANY, LIMITED.

half-yearly ordinary general meeting of this company was held Tuesday, the 22nd inst., at the Law Association Rooms, Liverpool, Mr. T. Brunner, Bart., M.P., presiding.

Chairman said he had to move that the directors' report, which had been circulated, together with the statement of accounts, be adopted, and that the dividends as recommended in the report be paid. The shareholders would have noticed that the directors had decided that they had purchased the land, works, and business of the late Ammonia, Soda, and Salt Syndicate, Ltd., of Middlesex, a going concern on the first of this month. It had been found that these works had been acquired on advantageous terms to the company, but he had to ask the meeting to excuse him from saying more about this matter, because it would not be to their advantage that the price they had paid for this concern should be made public.

Accompanying the report was a circular referring to the new shares which had been offered for subscription to the old shareholders. The date for the application of these shares expired on the 29th August, and they had now arrived at the end already applications for the whole number of shares issued had been received. He thought this was a very satisfactory result to have had an interest in the company.

Ludwig Mond seconded the adoption of the report.

Newman asked a question as to how £272,000, mentioned in the report, was invested, also as to how the new shares would rank as compared with those in existence, because after all they might not have 30 per cent. dividend, and they should know in what way they stood.

Chairman said the investments consisted partly of a considerable number of shares in a company of the same character as their own, and the remainder consisted of investments which came under the category of securities. With regard to the preference shares they were now in a position to say they would stand exactly on a par with the other preference shares issued until now. They would, of course, come before the ordinary shares. These shares were issued for the benefit of the old shareholders, and that the possessors of the preference shares might have some money out of the transaction. As to Mr. Newman's fears that the new shares might not always have 30 per cent., he thought the owners of the new shares might calculate upon 7 per cent. (Laughter.)

In reply to another shareholder, the Chairman said all applications for new shares coming in till the 29th would rank together.

Jones moved that the directors, other than the managing directors, be paid the sum of £600. for their services for the half-year ending 30th August 1895.

The motion was seconded by Mr. Irvine, and carried.

The motion of Mr. Paton, seconded by Mr. J. D'Arcy, the Chairman, Messrs. T. W. Reid and Co., Liverpool, were re-appointed for the half-year.

Charles J. Galloway moved a vote of thanks to the managers of the company for the efficiency and diligence with which they had performed their duties.

Holland seconded the motion, which was carried with acclamation.

A vote of thanks to the chairman brought the meeting to a close.

Trade Notes.

SCOTCH COAL SHIPMENTS.—The Scotch coal shipments for the week show the large increase of 175,575 tons, the biggest yet recorded.

REFINERY DESTROYED.—In the course of a severe fire that broke out on Tuesday at Hoogezand, in the province of Groningen, Holland, a refinery has been burnt down, as well as a number of other buildings.

CONTINENTAL IRONMASTERS PREVAIL.—The deputation of German and ironworkers who have been on the Continent to investigate the circumstances under which Continental makers are able to compete with English in the iron trade, will report that it is the superior machinery possessed by the German and Belgian works which accounts for their success.

"ARTIFICIAL" MANURE.—Just lately large quantities of so-called "artificial" manure have been sold in some of the Surrey markets at a price of 15s. per ton as a manure for mangolds. A sample was sent to the Eastern Agricultural College, Wye, for analysis, and it turned out to contain not a particle of nitrate, but to consist of—sand, 15 per cent.; sulphate of soda, 75 per cent.; salt, 10 per cent. This is virtually no value as a manure. The salt, if of any use, would justify a higher price than 2s. per ton. No wonder agriculturists are a bad way if they spend so blindly without using the means of scientific and chemical analysis afford.

FATAL BOILER EXPLOSION AT CHEADLE.—A boiler explosion occurred last week on the premises of Mr. Goodman, Brookside Farm, Cheadle. Thomas Royle occupies a portion of the building, in which was erected an engine and boiler to drive hay-chopping machinery. Whilst he and a lad named Wrench were engaged in the building the boiler exploded with a deafening report, blowing away the roof and partially demolishing the building. Wrench was discovered by the side of the wrecked boiler, having his collar bone and shoulder broken. Royle was also injured. Wrench was removed to Stockport Infirmary in an unconscious condition, and died a few hours afterwards.

WATERING BEER: IGNORANCE NO EXCUSE.—At the Mansion House, on Monday, Edward Charles Bateman, Essex-street, Bouverie-street, was summoned for that he, being a retailer of beer, did dilute certain beer. Mr. Hawkins appeared on behalf of the Inland Revenue in support of the summons.—On June 12th an officer of Inland Revenue took a sample of beer on draught from a cask on the defendant's premises, and on analysis it was found to be diluted to the extent of 2½ gallons of beer in a barrel of 36 gallons. Another cask from which a sample was taken was found to be perfectly correct.—Mr. Overend, for the defence, said that the defendant's public-house opened at 2 a.m. for printers. The defendant was in ill-health, and consequently left matters to one of his employees. If an error had occurred it was without the defendant's knowledge.—The Lord Mayor fined the defendant £10. and costs.

THE ELECTRIC CONSTRUCTION COMPANY, LIMITED.—This company, we learn, has secured the contract for the supply of the plant required at the Central Lighting Station now in course of erection for the York City Council. The amount of the company's tender was £8,650. The members of the Iron and Steel Institute at the recent Birmingham meeting visited the works of the company, which are situated at Wolverhampton, and stand upon 23 acres of land, of which four acres are covered by buildings. They comprise winding, fitting, erecting and testing shops, foundries, and physical and chemical laboratories. Another department consists of a brass foundry and instrument shop, where the more delicate machines and apparatus for testing and measuring are made. One great feature here is that all the machines throughout the works, including the heavy lifting cranes, are driven by electricity, even the blower in the foundry being driven by a motor. One of the most important manufactures of the company is the continuous-current transformer, which was first designed for the Chelsea and Oxford central electric lighting stations. About 700 men are employed at these works, and a large messroom and kitchens are provided for their accommodation.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are practically unaltered at 11d. to 11¼d. for 90's and 50/90's, according to position. The price of 60% crude carbolic acid is maintained, but 40% crystals are very quiet. Crude naphtha is quoted 5¼d. Solvent is rather weak at 1s., and in some localities at 11d. There is no change to report in anthracene or creosote. Pitch is firm for both spot and forward at 38s. 6d., f.o.b. East Coast.

Sulphate of ammonia, on the whole, is steadier. There has been a better demand for prompt delivery during the week. Immediate wants having been filled, however, the market closed quiet at London £9. 5s., Liverpool £9. 6s. 3d., Hull £9. 5s., and Leith £9. 6s. 3d. to £9. 7s. 6d.

REPORT ON MANURE MATERIAL.

There has been a quiet market throughout the week, and the business done has been induced mainly by concessions in prices. The inquiry for mineral phosphates from the Continent has not been followed by much similar inquiry from United Kingdom buyers, and there is no important business to United Kingdom to report. Quotations are, for 75/80% Florida Rock, 6¼d. per unit, for Peace River Rock 6d., and for South Carolina River Rock and similar grade Algerian 5½d., but these prices are probably ¼d. above actual values. There is nothing fresh to report in River Plate bones, and the position is unchanged. Crushed Kurrachee bones offered at £4. 2s. 6d. per ton, and Bombay bone meal at £4. 5s. per ton, ex quay, autumn shipment, without finding buyers. Common grinding bones are worth £3. 12s. 6d. to £3. 15s. per ton, ex quay, Liverpool. A parcel of River Plate dried blood has been sold at 8s. per unit, ex quay, Liverpool. Nitrate of soda is easier. On spot the value of good quality is 7s. 10½d., and of refined 8s. 1½d. per cwt. Due cargoes are worth about 7s. 7½d. per cwt., and October-November shipments about 8s., ordinary quality.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, dull: Scotch warrants closed at 46s. 11½d.; Middlesbrough, 37s. 11d. cash, and hematite, 47s. 1½d. Copper, steady: Chili bars, G. O. B.'s and G. M. B.'s, closed at £47. 7s. 6d. to £47. 11s. 3d. cash, and £47. 13s. 9d. to £47. 18s. 9d. three months. Tin, steady: Straits closed at £65. 7s. 6d. to £65. 17s. 6d. cash, and £65. 12s. 6d. to £66. 2s. 6d. three months; Australian, £66. 7s. 6d.; English ingots, £68. 1cs. Lead, firm: Spanish, £10. 18s. 9d.; English, £11. 2s. 6d.; Silesian spelter, ordinary, £15. 8s. 9d. Nickel, 1s. 1½d. Antimony, £31. 1cs. Quicksilver: first hands, £7. 5s.; second hands, £7. 3s. Copper shares, steady: Cape, 2½ to 2¾; Copiapo, 2½ to 2¾; Libiola, 3¼ to 4; Mason and Barry, 2½ to 3¼; Rio Tinto, 18 to 18½; Tharsis, 5½ to 5¾.

GLASGOW, WEDNESDAY.—Market strong, with good business. Scotch done at 46s. 9d., and 47s. cash, also at 46s. 11d. and 47s. 2d. one month; closing with buyers at 46s. 11½d. cash. Cleveland done at 37s. 11½d. and 38s. 1d. one month. Cumberland hematite done at 46s. 10½d. and 47s. cash, also at 47s. 3d. and 47s. 4½d. one month; closing with buyers at 47s. 1½d. cash. Middlesbrough hematite closes with buyers at 44s. 10½d. cash. Copper done at £47. 8s. 9d. cash and £47. 17s. 6d. and £48. 1s. 3d. three months.

LIVERPOOL MINERAL MARKET.

Our market continues to improve, with prospect of further advancement. Manganese stocks are low, and prices are firm. Ground manganese still continues strong at £6, £8, £10, and £12. 10s. per ton, according to quality. Manganiferous iron ore is much firmer, with more inquiry. Bauxite is in good demand, and prices are firm at 20s. per ton for first quality, 16s. 9d. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. Chrome ore: Arrivals are somewhat improved, prices being firm at 70s. per ton for 40% ore and 110s. to 115s. per ton for prime 50% ore. French chalk: Demand has increased materially, and spot stocks are being further heavily drawn upon. Arrivals are slow, and prices are therefore very firm at 70s. to 75s., 85s. to 90s., and 100s. to 110s. per ton for "Angel White" brands. Plumbago is in strong demand for good quality at £6 to £8. 10s. per ton. Wolfgram and scheelite: These articles are steady at full prices. Arsenic scarce, and prices are firm at £16. to £16. 10s. per ton. Umbers and ochres continue in strong demand at full prices.

MISCELLANEOUS CHEMICAL MARKET.

Trade in alkalis is without any feature calling for special report, prices all round remain as for some time past. The expectation of advance in 58% alkali is not yet realised, but negotiations are said to be proceeding with a view to effecting some arrangement for limitation of output, and advance of prices, meantime 58% alkali is quoted at £2. 15s. to £2. 15s. 6d., bags f.o.r., but makers have withdrawn quotations for forward delivery at the moment. Salts are rather improved and is nominally 20s. f.o.r. with little offering. Bleaching powder, spot delivery, £7. makers' works, and £6. 15s. has been accepted for 1896 delivery. There is some attempt on the part of large consumers to still further depress the price of this article. Caustic soda is steady at prices which have been ruling for some time past, viz.:—F.o.b. Liverpool, 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 60%, £6. 10s. net per ton, 10 ton lots and upwards. The same prices are quoted for delivery over 1896. Soda crystals dull at 35s. to 37s. 6d. f.o.r. makers' works. Chlorate of potash, 4½d. per lb.; chlorate of soda, 6½d. per lb. The price of recovered sulphur stands firm at £3. 12s. 6d. makers' works; nitrate of soda steady at 7s. 10½d. for near delivery, and forward shipments, if anything, rather firmer. Borax still offering at competitive prices. An improvement is reported in yellow prussiate of potash, makers' quotations being now from 7½d. to 8d. according to make. Prussiate of soda, 6½d. per lb. Brown acetate of lime still remains at the low price recently touched. Grey acetate of lime neglected. White sugar of lead, £22. 10s. c.i.f. All other acetates quiet. Sulphocyanides are without any improvement, and only selling in small quantity. White powdered arsenic still continues scarce, and price firm at £15., Garston, etc. Aniline oil and salt have undergone no recent change in values. Carbolic acids of all grades are neglected, Sulphate of copper maintained at recent advance, and in fair demand. Ammonia salts all round are firmer, muriate advanced to £24. per ton. Generally speaking there are some indications of better trade in miscellaneous chemicals.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY

Continued scarcity is reported in soda crystals, and holders firmer of tone in consequence, requiring a slight increase on the lately ruling. Chlorate of potash continues to the easy side, nitrate of soda is reported also slightly easier, but as regards the of the ordinary chemicals there is little or no change to record, the market is on the whole quiet. In the mineral oil and paraffin sections there has been rather more activity, and the booking for new seasons' supply of burning oil has been brisker at the prices by the makers. It is said that one or two of the works have bargained for nearly the whole of their estimated output. Naphtha is still at 8d. per gallon, the recently raised price, and the solid paraffin (scale and wax) are in moderate request at the old values. Sulphate of ammonia has continued to improve, though at a very slow pace, and some holders are now looking for not less than £9. 7s. 6d. per ton. Others are willing to take a fraction less.

Chief prices current are:—Soda crystals, 35s. to 36s. nett, T. soda ash, 48/56°, £3. 15s. to £4. 10s. nett, Tyne; white ash, 48/52°, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. Glasgow; caustic soda, white, 74° £9., 70/72° £7. 15s., 66° £6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching powder, £6. 5s. to £7., nett, Tyne; saltcake, 15s.; borax, £1. refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries; export, 4½d. nett, f.o.b. Glasgow; bichromate of soda, 3½d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 4½d. less 5%, Liverpool; nitrate of soda, 18s. 4½d.; sulphate of ammonia, £9. 6s. 3d. to £9. 7s. 6d. prompt, Leith; sal ammoniac, first and second white, £39. and £37. nett, port; sulphate of copper, £16. 15s., less 5%, Liverpool; paraffin, hard, 2½d.; and soft, 1½d. to 2½d. per lb.; paraffin wax 120° refined, 2½d. to 2¾d.; paraffin spirit (naphtha), 8d. per gallon; paraffin oil (burning), No. 1 6½d., and crystal 6¾d., at work. Scotch buyers (English sales about 1d. lower); ditto (lubricating) £4. 5s. to £4. 10s.; 885° £4. 15s. to £5., and 890/895° £5. 0. Week's sugar imports at Greenock were 4,700 bags cane unrefined, 8,661 bags beet unrefined, and 7,500 bags beet refined.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY

OILS.—Palm oil is steady, with a fairly good business done at £21. 5s. for Lagos, and Accra £19. 10s. per ton transit. Oil of cottonseed rather scarce, but enjoying a good inquiry at full rates. There is a change in linseed, which keeps steady at 22s. 3d. to 23s. per cwt. Liverpool makes, in export casks. Cottonseed is steady for Liverpool refined and American, at 17s. 6d. to 18s. per cwt. Castor oil is firm, with a better inquiry. Good seconds Calcutta stands at 21s. first pressure French, 2½d. to 2¾d. per lb. Tallow is firm and steady. Resin is unaltered in price, with little doing however. Spirit of turpentine are a shade easier at 20s. 9d. to 21s. per cwt., with inquiry. Petroleum dull, with sellers of American at 6¼d. to 7d. and Russian refined 5½d. to 6d. per gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £14.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber, Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead, unchanged. Venetian red, £6. to £10. Cobalt: Prepared 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, £12. Zinc oxide, £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY

OILS.—Markets continue depressed, with prices all round lower. During the week the imports of linseed have been 14,844 qrs., from St. Petersburg 11,334 qrs., and Riga 3,510 qrs. Linseed again lower by 5s. per ton, closing steady at 20s. 3d. naked September-December, 19s. 3d.; January-April, 19s.; boiled refined from £1. 10s. to £2. per ton extra; export for the year 1,560 cwt. The imports of cottonseed, there have been no arrivals. Refined cotton oil upon the spot is quoted at 16s. naked; September-October, 16s.; November-April, 16s. 1½d.; crude, 14s. 1½d. spot; new oil for November-April, 14s. 6d.; buyers' casks 17s. and ordinary barrels 47s. 6d. per ton extra. The export of refined oil has been 1,860 cwt. There have been no arrivals during the week. Rapeseed, and rape oil is unchanged. Spirit of turpentine, 21s. per cwt. Olive oil from £32. to £35. per ton. Tallow in demand and dearer. Cod oil from £17. to £19. per ton, but in

nd. Siccative boiled oil, £13. per ton. Liquid soap in good nd from £15. per ton. Wool oil for carding purposes from 10s. per ton.

KES.—Demand slow for all kinds, owing to harvest operations depressed grain markets. Linseed cakes are 2s. 6d. per ton er; 95% pure, £6. 2s. 6d. to £6. 7s. 6d. (£5. 12s. 6d. has accepted during the week for London made, September to December, for a large quantity); Russians, £5. 10s. 17s. 6d. Oil cakes, £5. 5s. to £5. 7s. 6d. Cotton cakes: small supply of seed keeps prices steady; best makes, £4. to 6s. 6d. (London prices have to-day dropped from £4. 7s. 6d. to 2s. 6d.); seconds £3. 17s. 6d., best makes November-April 7s. 6d. to £4., but buyers' ideas are 7s. 6d. per ton lower Rape unaltered.

INTS.—Trade continues brisk, and orders plentiful. White ed leads unchanged. Black, yellow, blue, yellow ochre, Venetian nd oxide of iron paints from £11. per ton. Dry colours: Venetian om £4. Yellow ochre from £3. 15s. Oxide of iron from £7. rial black varnish, £5. 10s. per ton.

TYNE CHEMICAL REPORT.

TUESDAY.

There is no change to report in the position of the chemical market Bleaching powder is perhaps in rather better demand, with business doing. Soda crystals, £1. 17s. 6d. per ton gross weight 76/77% caustic, £9. 5s. to £9. 10s. per ton. Sulphur firm, 17s. 6d. per ton.

aching powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. n, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; ash, 48%, £3. 15s. per ton, nett; do., 52%, £4. 2s. 6d. per nett; do., 56%, £4. 10s. per ton, nett; alkali, 36%, £2. 15s. n, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of 5-7 cwt. casks, £6. per ton, nett; do., 1 cwt. kegs, £6. 12s. 6d. n, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. on, nett; soda crystals, casks, £1. 17s. 6d. per ton, weight; do., 2 cwt. bags, £1. 17s. 6d. per ton, nett; te of potash, 5d. per lb., less 6%; pearl hardening, per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. n, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, os. per ton, nett; carbonate of alumina, £28. 15s. per ton aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, 10s. per ton, nett.

L.T.—South Durham salt is steady at 9s. to 9s. 6d. per ton, Tees.

COALS.—Trade continues steady, and with a good inquiry for "forward" there is a prospect of prices being maintained in the immediate future. Quotations to-day are as under:—Best Northumbrian steam, 9s. 3d. to 9s. 6d. per ton; second qualities ditto, 8s. 6d. to 8s. 9d. per ton; small steam, 3s. 6d. to 3s. 9d. per ton; gas coals, 6s. 3d. to 6s. 9d. per ton; household coals, 10s. to 11s. 6d. per ton; unscreened bunker coals, 6s. to 7s. per ton; coke, steady, 13s. 6d. to 14s. per ton.

New Companies.

H. F. Cockill and Sons, Ltd. CAPITAL £15,000. in shares of £10. each. This Company has been formed to acquire the business of Messrs. H. and E. Cockill, at Cleckheaton, and to trade as leather and belting manufacturers. The subscribers to the memorandum of association are:—H. F. Cockill, Mount View, Cleckheaton, gentleman; H. Cockill, Cleckheaton, leather currier; E. Cockill, Cleckheaton, leather currier; Mrs. E. Cockill, Whitcliffe, Cleckheaton; Mrs. K. Rhodes, Booth-street, Cleckheaton; Mrs. H. M. Cockill, Booth-street, Cleckheaton; Miss F. Cockill, Mount View, Cleckheaton.

Cambridge Butchers' Hide and Skin Market, Limited. CAPITAL £5,000. in £5. shares. This Company has been formed to trade in hides, skins, fat, wool and as tallow chandlers.

Carboy Hamper Company, Limited. CAPITAL £2,000. in shares of £1. each. This Company has been formed to acquire the business of H. Finch, Chestergate Works, Stockport, and to manufacture carboy hampers.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

H. COOMBER and T. R. ATKINS, varnish dealers, Wych-street, Strand, W.C., under the style of T. R. Atkins and Co.

B. D. WOODMAN and J. SKEY, agricultural engineers, &c., Bingham, Notts., under the style of Woodman and Skey.

J. RILEY and J. E. RILEY, chemical manufacturers and drysalter, Hapton, near Accrington, Manchester, and Bradford, under the style of John Riley and Sons, as far as regards J. Riley.

E. SQUIRE and J. HUMBLE, slag crushers and road metal producers, Washington, Durham, under the style of Squire and Humble.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

BAINBRIDGE, H. B., Selby-road, Anerley, Camden Chemical Co., Pratt-street, Camden Town, Hygienic Stores, Queen-street, E.C. manufacturing chemist.

Adjudication.

GREEN, HENRY, Birmingham, drysalter.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

ed ending August 17th.
ate of Lime—
ce, 2 cks. H. Johnson & Sons
c Acid—
nd, 80 crbys. 7 cks. 8 cs.
A. & M. Zimmermann
ne—
nd, 1 ck. Philipps & Graves
3 dms. T. H. Lee
nd, 117 cks. Ohlenschlager Brs.
3r H. Wallace & Co.
ina Sulphate—
nd, 31 cks. Beresford & Co.
ony Ore—
cy, 81, H. Bath & Sons
ca, 50 J. Bamber & Co.
ide Oil—
nd, 7 cks. Beresford & Co.
10 Philipps & Graves
ton—
um, £14 Girard, Frs. & Co.
14 W. H. Mitchell
any, 48 Craven & Co.
220 Imperial Asbestos Co.
200 London Asbestos Co.
429 Brit. Asbestos Co.
180 Pickford & Co.
85 Girard Frs. & Co.

Canada, 60 W. Byford
" 982 G. Ward & Sons
Barium Chloride—
Germany, 22 cks. Petri Brs.
Barium Nitrate—
Germany, 32 cks. Thames S. T. & L.
Co., Ltd.
Barytes—
Holland, 67 cks. J. L. Lyon & Co.
Belgium, 33 S. H. Willoughby
Bleaching Soda—
Germany, 51 c. H. Lambert
Bone Waste—
Belgium, 17 t. T. M. Duche & Sons
Boracic Acid—
Italy, 13 brls. B. & N. Wf. Co.
Camphor—
Germany, 3 cs. T. H. Lee
Caoutchouc—
B. E. Africa, 21 c. L. & I. D. Jt. Co.
Madagascar, 22 J. A. Hadden
Ceylon, 4 L. & I. D. Jt. Co.
Rangoon, 200 Kleinwort, Sons
Singapore, 100 & Co.
Aden, 70 Wallace Brs.
Germany, 180 Anderson, Weber
" 68 & Smith

Aden, 24
Zanzibar, 25
" 36 Hale & Son
" 423 Forbes, Forbes & Co.
P. E. Africa, 11 L. & I. D. Jt. Co.
Singapore, 916 Williams, Torrey
& Co.
P. E. Africa, 53 Prop. Bull Wf.
Carbon Black—
U. States, 100 brls. Steinhoff, Sons
" 186 L. & I. D. Jt. Co.
Castor Oil—
France, 5 cs. W. G. Firth & Co.
Italy, 10 Fellows, Morton,
& Co., Ltd.
E. Indies, 114 cks. Ross & Deering
" 10 Cayzer, Irvine
& Co.
Italy, 10 cs. Langton, Edden
& Co.
Caustic Potash—
Holland, 320 c. J. M. Steel & Co.
Germany, 95 Petri Brs.
Caustic Soda—
Holland, 3 c. J. Barber & Co.
Belgium, 18 pkgs. T. Palmer
Germany, 48 L. & I. D. Jt. Co.
Holland, 4 pkgs. J. Barber & Co.
Germany, 31 cs. 5 cks. T. H. Lee
" 69 29 9 A. & M.
Zimmermann

Germany, 20 Philipps & Graves
U. States, 21 cks. R. Greening
Cream of Tartar—
France, 2 cs. T. Meadows
" 27 cks. B & F. Wf. Co.
Holland, 36 Kirkpatrick & Co.
France, 5 M. Ashby, Ltd.
Spain, 17 W. C. Bacon & Co.
France, 25 "
Dextrine—
Germany, 30 pkgs. Pronk, Davies
& Co.
" 100 bgs. J. Barber & Co.
" 100 Seaward Brs.
Disinfectants—
Germany, 2 brls. F. W. Berk & Co.
Dyestuffs—
Argols
Italy, 60 cks. Thames S. T. & L.
Co.
" 1,958 B. Jacob & Sons
France, 2 B. & F. Wf. Co.
Cochineal
Canaries, 25 bgs. J. Owen
" 53 Tyrer & Co., Ltd.
Extracts
U. States, 100 brls. W. Burton & Son
Germany, 2 cks. L. & I. D. Jt. Co.
Canada, 80 brls. Furness, Withy
& Co.
U. States, 236 cks. L. & I. D. Jt. Co.
France, 20 pkgs. T. H. Lee
Germany, 6 cs. H. Lambert
Denmark, 26 A. F. White & Co.

Gambler Singapore, 493 bls. " 84 pkgs. W. Balchin Williams, Torrey & Co.	Glue— — £839 — Guano— Aden, 14 t. Culverwell, Brooks & Co. Peru, 1,650 Anglo-Cont. Guano Wks.	Starch— Germany, 200 cs. L. Sutro & Co. Belgium, 40 W. Pack Holland, 990 Little & Johnston France, 201 A. Dunn Holland, 20 G. Rahn & Co. " 106 Philipps & Graves U. States, 200 Hernu, Peron, & Co. " 200 60 brls. Horne & Co. Germany, 1,410 570 bxs. Oswego Co. Horne & Co.	Antimony Ore— Antofagasta, 100 sks. Lapun Walker & Co.
Indigo E. Indies, 20 cts. Arbuthnot, Latham & Co. " 36 Forbes, Forbes & Co. " 13 R. von Glehn & Sons " 5 P. Macfadyen & Co. " 54 Parry & Co. " 47 Croysdale & Co. " 289 L. & I. D. Jt. Co. " 2 W. Bandt, Sons, & Co. " 16 H. Johnson & Sons Spain, 2 arms. L. & I. D. Jt. Co.	Iron Sulphide— Germany, 4 cks. F. Allen & Sons Lead Acetate— Germany, 25 cks. F. Boehm Magnesium Borate— Germany, 20 kgs. Petri Bros. Magnesium Carbonate— Holland, 74 pkgs. Beresford & Co.	Stearine— Belgium, 189 bgs. H. Hill & Sons France, 100 Walbaum & Tosetti N. Zealand, 1 ck. Flack, Chandler & Co. France, 230 G. Boor & Co.	Barytes— Antwerp, 61 cks. 100 bgs. Boracic Acid— Leghorn, 30 cks. H. Cog & Co. " 137
Myrabolams E. Indies, 314 bgs. J. Graves " 800 Lucas and Spencer's Wf. Ld. " 2,657 Baxter & Hoare " 667 Marshall & French " 667 Whitstable S. Co. " 2,712 Brown & Elmslie " 1,366 S. Figgis & Co. " 1,366 W. Shelcott " 800 pkts. Culverwell, Brooks & Co. " 2,926 bgs. L. & I. D. Jt. Co.	Manure— E. Indies, 306 t. A. Hunter & Co. Sydney, 3 G. S. Yuill & Co. Belgium, 220 G. Allen France, 330 A. Hunter & Co. Mica— E. Indies, £14 W. M. Smith & Sons " 295 E. Davis & Co. Japan, 8 L. & I. D. Jt. Co.	Sulphur— Italy, 500 t. Brandram Bros. & Co. Tallow and Stearine— U. States, 51 cks. W. Johnson & Co.	Borate of Lime— Antofagasta, 4,150 bgs. Borax— Valparaiso, 640 sks. Caoutchouc— Havre, 9 bxs. Cunard S. Co.
Saffron Spain, 1 cs. C. Brumlen & Sons " 3 Richardson, Spence & Co.	Mineral White— Italy, 50 bgs. T. Hill Jones Methyl Alcohol— Germany, 2 dms. T. Jones & Co. Molasses— B. W. I., 197 cks. 2,400 c. W. Anderson & Co.	Tar— France, 69 brls. J. Burnett & Sons Germany, 100 W. Beard & Son Tartaric Acid— Holland, 7 cks. F. C. Devon & Co. " 231 Kirkpatrick & Co. " 18 B. & F. Wf. Co.	Castor Oil— Calcutta, 970 cs. Ralli Marseilles, 25 Langstaff & " 253 cks.
Sumac Italy, 100 bgs. H. Clarkson & Co. " 272 J. E. Scott " 380 bgs. Beresford & Co. Singapore, 223 bls. McDougall & Bonthron	Naphtha— Holland, 53 dms. Burt, Boulton, & Co. Nitro— Holland, 4 cks. W. Balchin Ochre— Spain, 4 pks. A. G. Boyes Holland, 44 Philipps & Graves	Turpentine— U. States, 5,098 brls. Nickoll & Knight Italy, 2 cs. M. D. Co. U. States, 3,505 Produce Brokers' Co., Ld.	Chemicals (otherwise under.)— Bremen, 7 cs. Chrome Ore— Montreal, 125 bgs.
Tanner's Bark Adelaide, 40 t. McIlwraith & Co. Germany, 69 L. & I. D. Jt. Co. Melbourne, 5 Leach & Co. Belgium, 41	Oxalic Acid— Holland, 5 cks. Beresford & Co. Paint— Germany, 1 cs. T. H. Lee Phosphate Rock— Algolia, 600 t. Odams Manure Co. U. States, 2,536 Fox, Roy, & Co.	Ultramarine— Holland, 4 cks. Spies Bros. & Co. Verdigris— France, 8 cks. B. & F. Wf. Co.	Colours— Ghent, 19 cks. 2 cs. Cottonseed Oil— N. Orleans, 1,050 brls. New York, 100
Turneric E. Indies, 190 bgs. Prop. Bull Wf. " 75 G. & H. Green " 1,309 L. & I. D. Jt. Co. " 1,000 H. A. Litchfield & Co.	Phosphoric Acid— Germany, 1 cs. Burgoyne & Co. Pitch— Germany, 54 brls. C. B. Leighton Plumbago— Italy, 154 cks. J. Thredder Son & Co.	White Lead— Germany, 90 cks. Steinhoff, Sons, & Co. Holland, 20 Blundell, Spence & Co. Germany, 7 H. Lambert " 13 S. H. Willoughby " 5 A. Stedman & Sons Holland, 56 T. & W. Farmiloe Austria, 48 brls. W. Balchin Belgium, 15 21 cs. M. D. Co. " 50 J. L. Lyon & Co. France, 46 W. Harrison & Co. " 18 G. Watts & Sons Holland, 24 Randall Bros. " 19 Burrell & Co. Germany, 28 Randall Bros.	Cream of Tartar— Marseilles, 5 brls. Dyestuffs— Argols Oporto, 43 cks. German B. of Lon
Valonia A. Turkey, 21 t. Schloesser Bros.	Pyrites— Spain, 1,815 t. Naylor, Benson, & Co.	Whiting— France, £110 J. E. de Wolf & Co.	Logwood Havre, 5 t. Cunard S. Co., L
Farina— Holland, 50 bgs. J. Knill & Co. Germany, 200 Seaward Bros. Holland, 500 T. H. Lee	Quicksilver— Italy, 750 bts. L. & I. D. Jt. Co. Rosin— France, 23 brls. Lucas & Spencer's Wf. Co. U. States, 100 L. & I. D. Jt. Co. " 1,150 Produce Brokers' Co. " 300 Moore & Hole " 200 F. & S. Chiesman & Co. " 800 H. Hill & Sons	Wolfam Ore— Queensland, 4 t. Vivian, Younger & Co.	Myrabolams Calcutta, 800 pkts. Bombay, 530 bgs. " 5,550 D. Sansoon & Co. " 309 Aldridge, Sains & Co. " 1,260 A. Ewart & Co.
French Chalk— Italy, £130 W. Harrison & Co.	Saltpetre— Germany, 5 cks. L. & I. D. Jt. Co. " 43 J. Hall & Son	Wood Pulp— Norway, 10 pkgs. Millwall Dk. Co. Germany, 406 W. Friedlander " 96 L. & I. D. Jt. Co. " 6 Henderson, Craig, & Co. Germany, 92 Craven & Co. Sweden, 328 W. G. Taylor & Co. " 172 Henderson, Craig, & Co. Norway, 200 Becker & Co. Denmark, 50 W. G. Taylor & Co. Norway, 2,000 bls. W. E. Bott & Co. " 400 T. H. Lee Belgium, 1,596 W. Smith	Orchella Valparaiso, 39 bls. J. M. Sumac Palermo, 175 bgs. T. B. Ma & Co. " 500 73 bls.
Glucose— France, 200 pkgs. 200 c. C. J. Lang- mead U. States, 500 500 c. Vokins & Co., Ld. " 50 300 T. J. Lipton " 100 560 Ohlenschlager Bros. " 50 284 J. Keiller & Son, Ld. " 150 900 Page, Son, & East " 100 100 Beck & Pollitzer Germany, 200 200 Trier, Meyer & Co. " 25 204 L. Sutro & Co. U. States, 500 500 G. Hedges & Son " 50 281 Union Lighter- age Co., Ld. " 100 600 Deering & Robottom " 2,270 5890 L. Sutro & Co. France, 209 200 Barrett, Tagant & Co. U. States, 250 250 Trier, Meyer & Co. " 500 500 Windmiller & Co. " 4,000 4,000 Pearce, Pelly & Co. " 1,100 1,100 E. Dixon " 1,150 1,150 G. Clark & Sons " 300 1,656 T. M. Duche & Sons " 3,150 3,150 Fellows, Morton & Co. " 450 2,025 R. G. Hall & Co.	Soda— Holland, 2,000 c. R. Waters Soda Ash— Holland, 6,000 c. R. Waters Sodium Acetate— Germany, 7 cks. F. Boehm	Zinc Oxide— Holland, 165 brls. M. Ashby, Ltd. U. States, 12 W. Harrison & Co. " 200 M. Ashby Ltd.	Turmeric Bombay, 381 bgs. D. Sansoon & Co.
Valonia Smyrna, 322 bgs.	Glue— Stettin, 40 bgs. Marseilles, 48 cks. 185 bls. Boston, 44 cs. 25 bgs. 42 cts. " 1 kg. T. Robinson & Co. " 2 cks. Wood Kim G. J. T. Fitch	LIVERPOOL. Week ending August 15th.	Yalonia Antwerp, 2 cks. J. T. Fitch
Glue— Rotterdam, 2 20 bgs. Bremen, 10 Hamburg, 20	Albumen— Oporto, 4 cs. D. Midgley & Sons	Antimony— Antofagasta, 150 sks.	Lime— New York, 1,503 bgs. Limestone— Antwerp, 1 crt. Litharge— Rotterdam, 12 cks.

Chinese Ore—
raiso, qty.
ambo, 1,000 t.
ine, 1,000 Darwen & Mostyn
Iron Co.

Al—
Cruz, 2,842 bgs. Bessler,
Waechter & Co.

m—
rdam, 8 cks.

illes, 12 brls.
rn, 33 bgs.

rdam, 14 dms.

In Scale—
York, 500 brls. Thompson &
Bedford

ore, 202 brls.

horic Acid—
m, 15 cks.

ihagen, 1 ck. Johansen &
Dahl

illes, 41 brls.
urg, 12

h—
urg, 30 cks.

Stone—
rn, 22 bgs.
na, 10 98 brls. 10 cs.

es—
a, 4,824 t. Matheson & Co.

n, 1,150 brls.

tre—
chi, 04 bgs.

leans, 1,872 brls.
illes, 5 cs. G. G. Mackay

York, 83 105 bxs.

n, 2 Evans, Sons
& Co.

orn, 250 bxs. Weaver &
Sterry

burg, 2 cs.

stone—
aux, 200 bgs. G. G. Black-
well, Sons & Co.

h—
York, 30 cs. R. Loveday

rdam, 76

ine—
aux, 15 cs.
erp, 62 bgs.
rdam, 7 brls.

ur—
nia, 154 bgs.

w—
te, 54 pps.
yres, 1 hd. 258 H. Brown

angel, 2,180 brls.

ar—
aux, 15 cks.
les, 10

oric Acid—
seilles, 10 brls.
burg, 7 cks.

le—
adelphia, 100 brls.
leaux, 20 cs.

rkoping, 33
York, 200
tin, 237 cks. Brown,
Geveke & Co.

amarine—
sburg, 1 cs.
rdam, 15

Lead—
rdam, 102 cks.

d Pulp—
treal, 1,050 bdis. A. Rice & Co.

York, 1 roll

rdam, 99 bdis.

Ashes—
seilles, 12 brls.

Oxide—
werp, 50 brls.

White—
enbagen, 3 cks. Johansen &
Dahl

rdam, 85

MANCHESTER

Week ending August 17th.

Acetic Acid—
Rotterdam, 39 balloons

Albumen—
Hamburg, 3 cs.

Aluminous Cake—
Rotterdam, 50 bgs.

Aniline Salts—
Rotterdam, 8 cks.

Anthracene—
Antwerp, 10 cks.

Barytes—
Antwerp, 100 bgs.

Castor Oil—
Antwerp, 29 brls.

Caustic Potash—
Treport, 41 dms. Arnati &
Harrison

Chemicals (otherwise undescribed)
Rotterdam, 2 cks.

Chrome Alum—
Rotterdam, 5 cks.

Colours—
Rotterdam, 51 cks 35 cs. 112 brls.
24 bxs.
Hamburg, 2 3 cs.
Ghent, 1 5
Antwerp, 21 9 pks.

Cottonseed Oil—
Rotterdam, 150 brls.

Dyestuffs—
Alizarine
Rotterdam, 78 cks. 5 brls. 1 bx
Extracts
Treport, 24 cks. Arnati &
Harrison

Ghent, 30

Farina—
Rotterdam, 500 bgs.
Hamburg, 180

Glucose—
Rotterdam, 4 cks.

Glue—
Rotterdam, 10 cs. 80 bgs.
Treport, 4 cks. Arnati
& Harrison

Rouen, 35 1
20

Limestone—
Antwerp, 1 cs.

Litharge—
Rotterdam, 14 cks.

Mineral White—
Bordeaux, 100 bgs. J. & P.
Hutchinson

Ochre—
Treport, 22 cks. Arnati &
Harrison

Oxalic Acid—
Rotterdam, 14 cks.

Pitch—
Rotterdam, 41 brls.

Potash—
Rotterdam, 11 cks.

Potassium Bioxalate—
Rotterdam, 1 ck.

Pyrites—
Huelva, 1,400 t.

Saltpetre—
Hamburg, 15 cks.

Soda—
Hamburg, 25 cks.

Sodium Acetate—
Treport, 8 cks. Arnati &
Harrison

Sodium Chlorate—
Rouen, 9 cks.

Starch—
Rotterdam, 82 cs.
Ghent, 20
Antwerp, 80

Stearine—
Rotterdam, 7 bls.

Tallow—
Rouen, 139 bgs.

Tartar—
Rotterdam, 2 brls.

Tartar Emetic—
Hamburg, 2 cks.

Tartaric Acid—
Rotterdam, 9 cks.

Ultramarine—
Hamburg, 7 cks.

Waste Salt

Hamburg, qty.

Wood Pulp

Gefle, 6,055 bls.
Rotterdam, 51
Christiania, 1,000 W. H. Ingram
Drammen, 160
Sannesund, 4,342
Winda, 2,475 lds. (Thro' Barrow)
Dissen Brs.

Torms, 2,117

Zinc Oxide

Rotterdam, 80 brls.

Zinc White

Rotterdam, 10 cks.

HULL.

Week ending August 17th.

Acetic AcidRotterdam, 3 cks. Hutchinson
& Son**Acid**Bari, 20 cks. Wilson, Sons,
& Co., Ltd.**Albume**St. Petersburg, 60 cs. Wilson, Sons,
& Co., Ltd.**Ammonia**New York, 30 pks. Wilson,
Sons, & Co., Ltd.**Aniline Colours**Rotterdam, 69 pks. W. & C. L.
Ringrose**Arsenic**Hamburg, 100 brls. Wilson, Sons
& Co., Ltd.**Barytes**Bremen, 102 cks.
Antwerp, 75 H. F. Pudsey**Glue**Rotterdam, 35
23 22 brls. Hutchinson & Son**Bone Meal**

Kurrachee, 423 bgs.

Castor OilLeghorn, 10 cs. Wilson, Sons,
& Co., Ltd.**Chemicals (otherwise undescribed)**Stettin, 3 cks. Wilson, Sons,
& Co., Ltd.**Trieste**Hamburg, 2 brls.
Dunkirk, 1 cs.
Antwerp, 61 pks. 1 cs.**Cod Oil**Christiania, 2 brls. Wilson, Sons,
& Co., Ltd.**Colours**Hamburg, 10 c. G. Malcolm
& Son**Danzig**10 Wilson, Sons,
& Co., Ltd.**Hamburg**22 Sissons Brs & Co.
20 Wilson,
Sons, & Co., Ltd.**Stettin**90 69 pks. Hutchin-
son & Son**Antwerp**1 cs. 15 133 W. & C. L.
Ringrose**Cryolite**Copenhagen, 2 cks. Wilson, Sons,
& Co., Ltd.**Dextrine**Stettin, 110 bgs. Wilson,
Sons, & Co., Ltd.**Dyestuffs**Alizarine
Rotterdam, 86 cks. 23 brls. Hutchin-
son & Son**Argols**Bordeaux, 50 bgs. Rawson &
Robinson**Cutch**

Bombay, 200 bxs.

Myrabolams

Bombay, 9,867 bgs.

SumacPalermo, 270 bgs. Wilson, Sons,
& Co., Ltd.**Farina**Harlingen, 335 bgs.
Ghent, 100 bxs. Wilson, Sons,
& Co., Ltd.**Stettin**

100 bgs. "

Amsterdam

100 "

GlucoseNew York, 300 brls.
Stettin, 820 bgs. Wilson,
Sons, & Co., Ltd.**Glue**Rouen, 5 cs. 5 cks. 25 bls. Rawson
& Robinson**Rotterdam**2 Hutchinson
& Son**Hamburg**3
35 Wilson, Sons,
& Co., Ltd.**Dunkirk**

78 cks.

Iron Oxide

Trieste, 78 cks.

Lamp BlackGhent, 150 brls. Wilson,
Sons, & Co., Ltd.**Naphthol**Rotterdam, 2 cks. Hutchinson
& Son**Phosphate Rock**Coosaw, S.C., 3,040 t. Alex. D.
Hammond, Emes,
& Co.**Port Royal**

2,333 tns. "

PhosphorusNew York, 5 cs. Wilson, Sons,
& Co., Ltd.**Pitch**Leghorn, 1 bx 38 pks. Wilson,
Sons, & Co., Ltd.**Plumbago**Genoa, 50 bgs. Wilson, Sons,
& Co., Ltd.**Pumice Stone**Trieste, 2 bls. Wilson,
Sons, & Co., Ltd.**Messina**

181 pks. 20 cs. "

SoapBari, 169 cs. Wilson, Sons,
& Co., Ltd.**Genoa**

1 "

Marseilles

2 "

StarchGhent, 40 bxs. Wilson, Sons,
& Co., Ltd.**Bremen**3,070 cs. Veltmann & Co.
Antwerp, 200 Bailey &
Leatham**Amsterdam**40 bxs. W. & C. L.
Ringrose**Stearine**Antwerp, 40 bgs. 4 cks. Wilson,
Sons, & Co., Ltd.**Sulphur**Catania, 51 t. 1,772 pks. Wilson,
Sons, & Co., Ltd.**Tar**Messina, 1 brl. Wilson, Sons,
& Co., Ltd.**Tartaric Acid**Rotterdam, 2 cks. Hutchinson
& Son**Treacle**Boston, 200 brls. Wilson, Sons,
& Co., Ltd.**Ultramarine**Rotterdam, 5 cs. W. & C. L.
Ringrose**Amsterdam**

5 J. Good & Sons

YarnishNew York, 10 brls. Wilson, Sons,
& Co., Ltd.**White Lead**Rotterdam, 55 cks. W. & C. L.
Ringrose**Amsterdam**

33 J. Good & Sons

Antwerp8 Bailey &
Leatham**Rotterdam**104 cks. Hutchinson
& Son

Wood Pulp—	
Hamburg,	200 bls.
Zinc Ashes—	
Amsterdam,	50 cks. J. Good & Sons
Zinc White—	
Antwerp,	7 cks. Wilson, Sons, & Co., Ltd.

GLASGOW.

Week ending August 22nd.

Aniline—	
Rotterdam,	5 cks. 8 cs. J. Rankine & Son
Asbestos—	
Hamburg,	6 bls.
Barium Sulphate—	
Antwerp,	420 bgs.
Barytes—	
Rotterdam,	23 pkgs.
Bone Meal—	
Bombay,	3,000 bgs.
Caoutchouc—	
Hamburg,	1 cs.
Castor Oil—	
Marseilles,	217 brls.
Chemicals (otherwise undescribed)	
Rotterdam,	1 ck. 4 cs.
Chrome Ore—	
Montreal,	125 bgs.
Cottonseed Oil—	
New York,	50 brls.
Dyestuffs—	
Alizarine	
Rotterdam,	1 cs. 33 cks. J. Rankine & Son
"	75 pkgs.
Extracts	
Rouen,	40 cks.
Antwerp,	1
Baltimore,	50 brls.
Fiume,	200
Myrabolams	
Bombay,	1,061 bgs. G. Dickson
Farina—	
Hamburg,	50 bgs.
French Chalk—	
Fiume,	50 bgs. P. M'Intosh & Son
"	50 Robertson,
"	50 M'Intosh & Co.
Gelatine—	
Rouen,	5 pkgs.
Glucose—	
Philadelphia,	250 brls.
New York,	349

Glue—	
Fiume,	100 bls.
Rouen,	27 cks. 7 cs.
Hamburg,	3
Rotterdam,	6 40 bgs.

Ochre—	
Marseilles,	82 brls.
Rouen,	125 cks.

Painters' Colours—	
Rotterdam,	1 cs. 11 cks. J. Rankine & Son
"	71 pkgs.

Phosphates—	
Rouen,	1 ck.
Bana,	300 t.
Ghent,	1,020 bgs.

Pitch—	
Archangel,	400 brls.
Marseilles,	58

Potash—	
Hamburg,	40 cks.

Pyrites—	
Huelva,	1,792 t. Tharsis Co.

Rosin—	
Baltimore,	250 brls.
Savannah, Ga.,	720
New York,	253

Soap—	
Fiume,	27 cs. Wm. Buntin & Co.
"	205
Marseilles,	42

Sodium—	
Rotterdam,	10 cks.

Starch—	
Fiume,	12 bgs.
Antwerp,	240 cs.
New York,	250
Amsterdam,	70 bxs.

Tar—	
Archangel,	1,680 brls.

Tartar—	
Hamburg,	4 cks.

Treacle—	
Philadelphia,	1,300 brls. Waddell & Bryson

Turpentine—	
Savannah, Ga.,	1,950 brls.

Varnish—	
New York,	10 brls.

Waste Salt—	
Hamburg,	966 bgs. 200 t.

White Lead—	
Rotterdam,	38 cks.

Wood Pulp—	
Hamburg,	203 bls.
Christiania,	200
"	1,200 pkgs. Alsing & Co., Ltd.

Zinc Ashes—	
Antwerp,	17 cks.
Zinc White—	
Rotterdam,	35 cks.

TYNE.

Week ending August 17th.

Aniline Colours—	
Rotterdam,	1 cs. Tyne S. S. Co.

Asbestos—	
Hamburg,	2 cks. Tyne S. S. Co.

Barytes—	
Antwerp,	200 bgs. Tyne S. S. Co.

Castor Oil—	
Antwerp,	35 brls. Tyne S. S. Co.

Colours—	
Rotterdam,	1 cs. Tyne S. S. Co.

Limestone—	
Antwerp,	2 pkgs. Tyne S. S. Co.

Phosphate—	
Antwerp,	270 t.

Phosphate Rock—	
Pt. Royal,	3,450 t.

Pyrites—	
Huelva,	3,424 t.

Starch—	
Rotterdam,	20 cs. Tyne S. S. Co.
Antwerp,	130 "

Tartaric Acid—	
Rotterdam,	4 cks. Tyne S. S. Co.

Ultramarine—	
Hamburg,	4 cks. Tyne S. S. Co.

Wood Pulp—	
Hamburg,	20 bls. Tyne S. S. Co.

Zinc Oxide—	
Antwerp,	25 brls. Tyne S. S. Co.

GOOLE.

Week ending August 14th.

Alkali—	
Calais,	9 cks.

Alum—	
Rotterdam,	60 bgs.

Aniline Dyes—	
Ghent,	22 cks. 1 cs. 4 kgs.
Hamburg,	12 2

Barytes—	
Rotterdam,	9 cks.

Colours—	
Hamburg,	12 cks. 2 cs.

Dyestuffs—	
Alizarine	
Rotterdam,	111 cks.
Logwood	
Hamburg,	57 t.

Dyestuffs (otherwise undescribed)	
Rotterdam,	271 cks. 37 cs.
Boulogne,	19 25 pkgs.

Farina—	
Hamburg,	650 bgs.

Glucose—	
Calais,	100 bgs.

Potash—	
Dunkirk,	29 dms.
Calais,	42

Soda—	
Rotterdam,	40 cks.

Sodium Silicate—	
Rotterdam,	4 cks.

Tartaric Acid—	
Rotterdam,	3 cks.

Ultramarine—	
Rotterdam,	3 cks.
Hamburg,	4

Waste Salt—	
Hamburg,	320 t.

GRIMSBY.

Week ending August 17th.

Albumen—	
Antwerp,	3 pkgs.

Caoutchouc—	
Hamburg,	10 cs. 1 ball.
Rotterdam,	1

Chemicals (otherwise undescribed)	
Hamburg,	7 cks. 8 cs.
Antwerp,	10
Rotterdam,	2

Coal Tar Dyes—	
Hamburg,	78 cks.
Antwerp,	43

Colours—	
Hamburg,	18 cks. 4 cs. 13 pkgs.
Rotterdam,	1
Antwerp,	30 6

Farina—	
Hamburg,	50 bgs.

Pitch—	
Dieppe,	10 cks.

Starch—	
Rotterdam,	126 cs.

Varnish—	
Hamburg,	5 cks.

Zinc Ashes—	
Antwerp,	11 cks.
Hamburg,	13

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.**LONDON.**

Week ending August 21st.

Acids—	
Dominica,	5 pkgs. £17
Alkali—	
Trinidad,	1 t. 3 c. £8
Suez,	17 7
Aluminous Cake—	
Calcutta,	18 t. 13 c. £67
Ammonium Carbonate—	
Santos,	13 c. £32
Rouen,	2 t. 11 75
St. Petersburg,	16 10 540
Ammonium Chloride—	
Odessa,	6 t. 9 c. £238
Melbourne,	7 cks. 43
Rotterdam,	17 111
Cologne,	2 17 59
Ammonium Sulphate—	
Trinidad,	25 t. £243
Amorphous Phosphorus—	
Hong Kong,	3 cs. £40

Arsenic—	
Wellington,	2 t. £34
Napier,	2 33
Lisbon,	5 cks. 16
Calcutta,	5 128
Melbourne,	5 78
Yokohama,	3 48

Bleaching Powder—	
Melbourne,	10 t. 6 c. £125

Borax—	
Brisbane,	4 c. £18
Melbourne,	1 t. 10 47

Caustic Soda—	
E. London,	19 c. £28
Auckland,	5 t. 3 39
Natal,	16 16
Melbourne,	3 23
Algoa Bay,	1 6 32
Townsville,	11 21
Delagoa Bay,	16 28

Chemicals (otherwise undes.)—	
Bombay,	27 cs. £114
Madras,	34 kgs. 48
Melbourne,	5 t. 260
Mauritius,	6 48
Brisbane,	24 15 109

Adelaide,	4 cks. 2 71
Sydney,	40 drs. 6 63
Cape Town,	6 68
Rotterdam,	4 t. 3 c. 52

Citric Acid—	
St. Petersburg,	1 t. 5 c. £165
Amsterdam,	5 kgs. 31
Gisborne,	1 6
Liban,	8 49
Wellington,	1 7
Rotterdam,	1 ck. 10 95
Calcutta,	2 cs. 24
Hamburg,	4 cks. 125
Sydney,	3 20
Bombay,	2 11
Melbourne,	10 61
Colombo,	2 16

Coal Products—	
Aniline Oil	
Genoa,	10 drs. £250

Aniline Salts	
Genoa,	12 pkgs. £50
New York,	10 cks. 50

Anthracene	
Rotterdam,	120 cks. £305

Benzol	
Hamburg,	4 brls. £10
Rotterdam,	70 pkgs. 208
Terneuzen,	16 drs. 95

Carbolic Acid	
Colombo,	6 cks. £24
Constantinople,	2 tics. 2
Rotterdam,	38 132
Calcutta,	54 drs. 16
St. Valery,	22 21

Coal Tar Dyes	
Calcutta,	1 cs. £11

Naphtha	
Brussels,	4 cks. £10

Naphthaline	
Paris,	100 bgs. £24

Pitch	
St. John's, N.B.,	232 cks. £17
New York,	200 135
Boston,	1,117 250 bgs. 750
Antwerp,	200 t. 70

Tar	
Algoa Bay,	325 drs. 700
Natal,	125
Beira,	20 runs.
Cape Town,	18 brls. 74
Sydney,	200

Copper Sulphate—	
Santos,	1 t. £11
Boston,	20 117

Tartar —		
mouth, 1 t. 10	108	
6 cks. 5	19	
3	168	
1	211	
5	95	
Tar —		
19 c.	126	
15 cks.	45	
20 drs.	18	
86 pkgs.	67	
16 t.	307	
11 cs.	38	
7	25	
Tar —		
30 t.	197	
Tau , 110 t.	1,100	
1 t. 10 c.	18	
71	281	
78	179	
12	97	
42	340	
450	1,500	
50	200	
620	1,345	
30	105	
152	1,380	
Acid —		
1 t. 7 c.	145	
te of Lime —		
10 t.	126	
rus —		
23 cs. 3 c.	1240	
m Bichromate —		
2 t. 12 c.	1106	
m Chlorate —		
4 cs.	123	
5 t. 8 c.	200	
m Cyanide —		
Bay, 1 t.	166	
7	1,092	
5 cs.	46	
m Iodide —		
1 cs.	112	
m Prussiate —		
21 cks.	157	
8	131	
te —		
165 t.	1124	
te —		
30 t.	645	
4	89	
14	349	
2	63	
2	63	
3	76	
10	12	
3	70	
ip —		
100 cs. 50 drs.	1280	
230 pkgs.	250	
200 cs.	500	
500	1,050	
100	250	
50	125	
55	138	
80	200	
kali —		
1 t. 4 c.	15	
h —		
10 t.	141	
ts —		
9 t. 14 c.	160	
Bicarbonate —		
10 c.	18	
1 t.	6	
1	8	
1	8	
Carbonate —		
14 c.	15	
Prussiate —		
4 cks.	140	
15	234	
Sulphate —		
3 t. 10 c.	120	

Spent Oxide —		
Dordt, 140 t.	140	
Sulphur —		
E. London, 20 kgs.	110	
Sulphur Dioxide —		
Melbourne, 13 cs.	173	
Sulphuric Acid —		
Algoa Bay, 10 drs.	122	
Penang, 1 t. 10 c.	13	
Superphosphate —		
Las Palmas, 10 t.	140	
Superphosphate of Lime —		
Bombay, 10 t.	150	
Tartaric Acid —		
Wanganui, 6 c.	126	
Libau, 2	14	
Algoa Bay, 3	17	
Auckland, 5	24	
Riga, 6	36	
Melbourne, 3 t.	288	
Sydney, 15	77	

LIVERPOOL.

Week ending August 21st.

Acetic Acid —		
Santos, 1 c. 1 q.	116	
Albumen —		
New York, 14 c.	114	
Boston, 4 t. 7	260	
Alum —		
Petrolia, 18 t.	185	
Tripoli, 3	15	
Piræus, 2	14	
Galatz, 2	14	
Ancona, 5	25	
Varna, 4	22	
Smyrna, 3	16	
Tripoli, 3	15	
Portland, O., 17	85	
Bourgas, 1	7	
Havana, 6	20	
Sydney, 2	10	
San Francisco, 6	30	
Alumina Sulphate —		
Bombay, 1 t. 1 c.	16	
Aluminous Cake —		
Calcutta, 21 t. 10 c.	182	
Ammonia (Liquid) —		
Valparaiso, 6 c.	117	
Ponce, 3	3 q.	
Ammonium Chloride —		
Genoa, 7 t.	125	
Bourgas, 10 c.	18	
Philadelphia, 5	209	
Ancona, 10	18	
Galatz, 1	37	
Odessa, 2	74	
Smyrna, 1	42	
Carls Krona, 2	48	
Rio de Janeiro, 5	9	
Ammonium Carbonate —		
Libau, 15 c. 1 q.	124	
Naples, 10	16	
Bari, 5	9	
Bilbao, 1 t.	33	
Ammonium Sulphate —		
New York, 10 t.	115	
Valencia, 132	1,322	
Philadelphia, 15	152	
Piræus, 2	11	
St. Petersburg, 9	110	
Demerara, 73	750	
Rio de Janeiro, 1	11	
La Pallice, 20	202	
Leghorn, 10	99	
Sourabaya, 120	1,200	
Asbestos —		
Demerara, 1 cs.		
Philadelphia, 2		
Savanilla, 1		
Valparaiso, 2		
Vera Cruz, 3		
Bisulphite of Lime —		
Madras, 10 c.	17	
Bleaching Powder —		
Baltimore, 142 cks.		
Bombay, 15		
Boston, 677		
Calcutta, 286 cs.		

Ghent, 68		
Kalamata, 10	5 brls.	
Lisbon, 10		
Melbourne, 70		
Montreal, 92	30 pkgs.	
Nantes, 32		
Naples, 72		
Newport News, 145		
New York, 487	44	20 bxs.
Norrkoping, 71		
Philadelphia, 160		
Piræus, 3		
Rouen, 20		
San Sebastian, 57		
Stettin, 36		
Boracic Acid —		
Melbourne, 3 t.	101	
Calcutta, 2 c. 2 q.	8	
Borax —		
Hamburg, 1 t. 8 c.	125	
Melbourne, 10	18	
Danzig, 1	3 q.	20
Solingen, 1	4	20
Genoa, 2	3	45
Malmo, 5	4	104
Brisbane, 1	9	8
Montreal, 10	10	10
Vera Cruz, 2	8	42
Algoa Bay, 24	8	490
Hamburg, 6		133
Sydney, 1		20
Klerksdorf, 5	5	5
Valparaiso, 5		93
Rotterdam, 3	1	3
Antwerp, 3		60
Calcium —		
B. Ayres, 10 t. 9 c.	125	
Calcium Chloride —		
Adelaide, 8 drs.	116	
Carbolic Acid —		
Genoa, 1 t.	1 q.	155
Hamburg, 8 c.	23	
New York, 1		58
Carbonate of Lime —		
Lisbon, 17 c.	16	
Castor Oil —		
Addah, 10 cs.		
Winnebah, 18		
Caustic Potash —		
New York, 1 t. 3 c.	127	
Newport News, 10		13
Caustic Soda —		
Adelaide, 53 drs.		
Algoa Bay, 55 cs.		
Alicante, 30		
Ancona, 35		
Antwerp, 35		
Barcelona, 169	10 cks.	40 brls.
Bari, 243		
Bilbao, 60		
Bordeaux, 37		
Boston, 150	50	
Bremen, 5		
Brisbane, 20		
B. Ayres, 150		
Calcutta, 87		
Catania, 30		
Cincinnati, 50		
Delagoa Bay, 10	11 cs.	
Demerara, 10		
Fiume, 15		
Galatz, 20		
Genoa, 229		
Hamburg, 85		
Hiogo, 137		
La Guayra, 10		
Las Palmas, 6		
Leghorn, 69		
Lisbon, 35		
Madeira, 20		
Marseilles, 66		
Melbourne, 40	9 pkgs.	
Messina, 108		
M. Video, 100		
Montreal, 115	65	25 kgs.
Naples, 35		
Newfairwater, 31		
New Orleans, 375	5 cs.	
Newport News, 150		
New York, 253	20	50 brls.
Oporto, 6		
Palermo, 20		
Pernambuco, 50		
Philadelphia, 75	20 cks.	
Rio de Janeiro, 42		
Rouen, 34		
St. John's, Nfld., 9	5 pkgs.	
Samarang, 9	10	

San Sebastian, 150		
Santos, 105		
Seville, 50		
Sourabaya, 45		
Tampico, 100		
Tarragona, 60		
Trieste, 15		
Valencia, 28		
Venice, 20		
Victoria, B.C., 30		
Vera Cruz, 15		
Vigo, 15		
Chemicals (otherwise undescribed)		
New York, 9 t. 5 c.	1269	
Gothenburg, 10	1 q.	30
Trebizonde, 4		7
Volo, 5		9
Danzig, 5		9
Kurrachee, 1		38
Tampico, 2		6
Montreal, 5	1	27
Alexandria, 6 cks.		9
Philadelphia, 13	1	419
Barcelona, 4		145
Odessa, 10		332
Leghorn, 1		34
Genoa, 6		10
Hamburg, 1	16	60
Oporto, 10		16
Rotterdam, 1	12	55
China Clay —		
Bahia, 16 cks.		
Boston, 982 t.		
Montreal, 20		
Philadelphia, 50		
Chromic Acid —		
Antwerp, 19 c.	163	
Hamburg, 10		32
Chloric Acid —		
B. Ayres, 1 c.	17	
Coal Products —		
Aniline Colours		
Barcelona, 5 cs.		
Aniline Oil		
St. Nazaire, 1 dm.		
Aniline Salts		
Boston, 105 cs.	10 drs.	
New York, 5	35 cks.	
St. Nazaire, 10		
Aurine Colour		
Hamburg, 1 kg.		
Creosote Oil		
Copenhagen, 30 brls.		
Lisbon, 100		
Naphthalene		
New York, 48 cks.		
Pitch		
Galatz, 60 brls.		
Ibrail, 20		
Shanghai, 80 tcs.		
Tar		
Philadelphia, 200 brls.		
Copperas —		
Vera Cruz, 3 t.	15	
Cairo, 13		23
Valparaiso, 1	2 c.	3
Copper Sulphate —		
B. Ayres, 15 c.	128	
Amsterdam, 2 t. 9	2 q.	44
Venice, 4	37	70
Rotterdam, 2	10	1
Bourgas, 1	4	1
Hamburg, 1	4	2
Galatz, 1		17
Nantes, 5	10	2
Bordeaux, 10	10	156
Marseilles, 10	10	155
Montreal, 5	1	75
Vera Cruz, 1		168
Bombay, 5		85
Odessa, 5		78
Palermo, 10	11	161
San Sebastian, 2		32
Bilbao, 5		82
Victoria, B.C., 1	5	23
Farina —		
Boston, 100 bgs.		
French Chalk —		
Montreal, 5 brls.		
Gelatine —		
Boston, 175 bxs.		
New York, 175		
Glue —		
Gibraltar, 3 cks.		
New York, 200 bgs.		

Wood Pulp—
Hamburg, 200 bls.
Zinc Ashes—
Amsterdam, 50 cks. J. Good & Sons
Zinc White—
Antwerp, 7 cks. Wilson, Sons,
& Co., Ltd.

GLASGOW.

Week ending August 22nd.

Aniline—
Rotterdam, 5 cks. 5 cs. J. Rankine & Son
Asbestos—
Hamburg, 6 bls.
Barium Sulphate—
Antwerp, 420 bgs.
Barytes—
Rotterdam, 23 pkgs.
Bone Meal—
Bombay, 3,000 bgs.
Caoutchouc—
Hamburg, 1 cs.
Castor Oil—
Marseilles, 217 brls.
Chemicals (otherwise undescribed)
Rotterdam, 1 ck. 4 cs.
Chrome Ore—
Montreal, 125 bgs.
Cottonseed Oil—
New York, 50 brls.
Dyestuffs—
Allizarine
Rotterdam, 1 cs. 33 cks. J. Rankine & Son
" 75 pkgs.
" Extracts
Rouen, 40 cks.
Baltimore, 50 brls.
Fiume, 200 G. Dickson
" Myrabolams
Bombay, 1,061 bgs.
Farina—
Hamburg, 50 bgs.
French Chalk—
Fiume, 50 bgs. P. M'Intosh
" 50 Robertson
" 50 M'Intosh & Co.
Gelatine—
Rouen, 5 pkgs.
Glucose—
Philadelphia, 250 brls.
New York, 349

Glue—
Fiume, 100 bls.
Rouen, 27 cks. 7 cs.
Hamburg, 3
Rotterdam, 6 40 bgs.
Ochre—
Marseilles, 82 brls.
Rouen, 125 cks.
Painters' Colours—
Rotterdam, 1 cs. 11 cks. J. Rankine & Son
" 71 pkgs.

Phosphates—
Rouen, 1 ck.
Bana, 300 t.
Ghent, 1,020 bgs.
Pitch—
Archangel, 400 brls.
Marseilles, 58
Potash—
Hamburg, 40 cks.
Pyrites—
Huelva, 1,792 t. Tharsis Co.
Rosin—
Baltimore, 250 brls.
Savannah, Ga., 720
New York, 253
Soap—
Fiume, 27 cs. Wm. Buntin & Co.
" 205
Marseilles, 42
Sodium—
Rotterdam, 10 cks.
Starch—
Fiume, 12 bgs.
Antwerp, 240 cs.
New York, 250
Amsterdam, 70 bxs.
Tar—
Archangel, 1,680 brls.
Tartar—
Hamburg, 4 cks.
Treacle—
Philadelphia, 1,300 brls. Waddell & Bryson
Turpentine—
Savannah, Ga., 1,950 brls.
Varnish—
New York, 10 brls.
Waste Salt—
Hamburg, 966 bgs. 200 t.
White Lead—
Rotterdam, 38 cks.
Wood Pulp—
Hamburg, 203 bls.
Christiana, 200 Alsing & Co., Ltd.
" 1,200 pkgs.

Zinc Ashes—
Antwerp, 17 cks.
Zinc White—
Rotterdam, 35 cks.

TYNE.

Week ending August 17th.

Aniline Colours—
Rotterdam, 1 cs. Tyne S. S. Co.
Asbestos—
Hamburg, 2 cks. Tyne S. S. Co.
Barytes—
Antwerp, 200 bgs. Tyne S. S. Co.
Castor Oil—
Antwerp, 35 brls. Tyne S. S. Co.
Colours—
Rotterdam, 1 cs. Tyne S. S. Co.
Limestone—
Antwerp, 2 pkgs. Tyne S. S. Co.
Phosphate—
Antwerp, 270 t.
Phosphate Rock—
Pt. Royal, 3,450 t.
Pyrites—
Huelva, 3,424 t.
Starch—
Rotterdam, 20 cs. Tyne S. S. Co.
Antwerp, 130
Tartaric Acid—
Rotterdam, 4 cks. Tyne S. S. Co.
Ultramarine—
Hamburg, 4 cks. Tyne S. S. Co.
Wood Pulp—
Hamburg, 20 bls. Tyne S. S. Co.
Zinc Oxide—
Antwerp, 25 brls. Tyne S. S. Co.

GOOLE.

Week ending August 14th.

Alkali—
Calais, 9 cks.
Alum—
Rotterdam, 60 bgs.
Aniline Dyes—
Ghent, 22 cks. 1 cs. 4 kgs.
Hamburg, 12 2
Barytes—
Rotterdam, 9 cks.
Colours—
Hamburg, 12 cks. 2 cs.

Dyestuffs—
Allizarine
Rotterdam, 111 cks.
Logwood
Hamburg, 57 t.
Dyestuffs (otherwise undescribed)
Rotterdam, 271 cks. 37 cs.
Boulogne, 19 22 pkgs.

Farina—
Hamburg, 650 bgs.
Glucose—
Calais, 100 bgs.
Potash—
Dunkirk, 29 dms.
Calais, 42
Soda—
Rotterdam, 40 cks.
Sodium Silicate—
Rotterdam, 4 cks.
Tartaric Acid—
Rotterdam, 3 cks.
Ultramarine—
Rotterdam, 3 cks.
Hamburg, 4
Waste Salt—
Hamburg, 320 t.

GRIMSBY.

Week ending August 17th.

Albumen—
Antwerp, 3 pkgs.
Caoutchouc—
Hamburg, 10 cs. 1 ball.
Rotterdam, 1
Chemicals (otherwise undescribed)
Hamburg, 7 cks. 8 cs.
Antwerp, 10
Coal Tar Dyes—
Hamburg, 78 cks.
Antwerp, 43
Colours—
Hamburg, 18 cks. 4 cs. 13 pkgs.
Rotterdam, 1
Antwerp, 30 6
Farina—
Hamburg, 50 bgs.
Pitch—
Dieppe, 10 cks.
Starch—
Rotterdam, 126 cs.
Varnish—
Hamburg, 5 cks.
Zinc Ashes—
Antwerp, 11 cks.
Hamburg, 13

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.**LONDON.**

Week ending August 21st.

Acids—
Dominica, 5 pkgs. £17
Alkali—
Trinidad, 1 t. 3 c. £8
Suez, 17 7
Aluminous Cake—
Calcutta, 18 t. 23 c. £67
Ammonium Carbonate—
Santos, 13 c. £32
Rouen, 2 t. 11 75
St. Petersburg, 10. 10 540
Ammonium Chloride—
Odessa, 6 t. 9 c. £238
Melbourne, 7 cks. 43
Rotterdam, 17 121
Cologne, 2 17 59
Ammonium Sulphate—
Trinidad, 25 t. £248
Amorphous Phosphorus—
Hong Kong, 3 cs. £40

Arsenic—
Wellington, 2 t. £34
Napier, 2 33
Lisbon, 5 cks. 16
Calcutta, 5 128
Melbourne, 5 78
Yokohama, 3 48
Bleaching Powder—
Melbourne, 10 t. 6 c. £125
Borax—
Brisbane, 4 c. £18
Melbourne, 1 t. 10 47
Caustic Soda—
E. London, 19 c. £28
Auckland, 5 t. 3 39
Natal, 10 16
Melbourne, 3 23
Algoa Bay, 1 6 32
Townsville, 11 21
Delagoa Bay, 15 28
Chemicals (otherwise undescribed)
Bombay, 27 cs. £114
Madras, 34 kgs. 48
Melbourne, 5 t. 260
Mauritius, 6 48
Brisbane, 24 15 109

Adelaide, 4 cks. 2 71
Sydney, 40 drs. 6 63
Cape Town, 6 68
Rotterdam, 4 t. 3 c. 52
Citric Acid—
St. Petersburg, 1 t. 5 c. £165
Amsterdam, 1 5 kgs. 31
Gisborne, 1 6
Libau, 8 49
Wellington, 1 7
Rotterdam, 1 ck. 10 95
Calcutta, 2 cs. 24
Hamburg, 4 cks. 125
Sydney, 3 20
Bombay, 2 11
Melbourne, 10 61
Colombo, 2 16
Coal Products—
Aniline Oil
Genoa, 10 drs. £250
Aniline Salts
Genoa, 12 pkgs. £50
New York, 10 cks. 50
Anthracene
Rotterdam, 129 cks. £305
Benzol
Hamburg, 4 brls. £10
Rotterdam, 70 pkgs. 208
Terneuzen, 16 drs. 95

Carbolic Acid
Colombo, 6 cks. 2 1105
Constantinople, 38 2 1105
Calcutta, 22 54 drs.
St. Valery, 22
Coal Tar Dyes
Calcutta, 1 cs.
Naphtha
Brussels, 4 cks.
Naphthaline
Paris, 200 bgs.
Pitch
St. John's, N.B., 272 cks.
New York, 200
Boston, 2,117 250 bgs.
Antwerp, 200 t.
Tar
Algoa Bay, 325 drs.
Natal, 125
Beira, 20 rmb.
Cape Town, 22 brls.
Sydney, 200
Copper Sulphate—
Santos, 1 t.
Boston, 20

of Tartar—				Spent Oxide—				Ghent,	68			San Sebastian,	150	
and,	1 t.	10	£11	Dordt,	140 t.	£140		Kalamata,				Santos,	105	
lymouth,	5		108	Sulphur—				Lisbon,	10	5 brls.		Seville,	50	
sal, 6 cks.			168	E. London,	20 kgs.	£10		Melbourne,	92	70		Sourabaya,	45	
urne,	3		211	Sulphur Dioxide—				Montreal,	32	30 pkgs.		Tampico,	100	
y,	1	5	95	Melbourne,	13 cs.	£173		Nantes,	72			Tarragona,	60	
ectants—				Sulphuric Acid—				Newport News,	145			Trieste,	15	
lad,	19 c.		£26	Algoa Bay,	10 drs.	£22		New York,	487	44	20 bxs.	Valencia,	28	
rp,	15 cks.		45	Penang,	1 t. 10 c.	13		Norrköping,	71			Venice,	20	
me,	20 drs.		18	Superphosphate—				Philadelphia,	160			Victoria, B.C.,	30	
res,	86 pkgs.		67	Las Palmas,	10 t.	£40		Piræus,	3			Vera Cruz,	15	
urne,	16 t.		307	Superphosphate of Lime—				Rouen,	20			Vigo,	15	
rbury,	11 cs.		38	Bombay,	10 t.	£50		San Sebastian,	57					
ndria,	7	5 drs.	25	Tartaric Acid—				Stettin,	36			Chemicals (otherwise undescribed)		
Blood—				Wanganui,	6 c.	£26		Boracic Acid—				New York,	9 t. 5 c.	£269
neau,	110 t.		£1,100	Libau,	2	14		Melbourne,	3 t.	£101		Gothenburg,	10	1 q. 30
e—				Algoa Bay,	3	17		Calcutta,	2 c. 2 q.	8		Trebizonde,	4	
ffe,	1 t. 10 c.		£18	Auckland,	5	24		Borax—				Volo,	5	
burg,	78	1	281	Riga,	6	36		Hamburg,	1 t. 8 c.	£25		Danzig,	5	
ore,	42	10	340	Melbourne,	3 t.	288		Melbourne,	10	18		Kurrachee,	1	9
rg,	450	12	1,560	Sydney,	15	77		Danzig,	1	3 q.	20	Tampico,	2	1
h,	59	12	200					Solingen,	1	4	20	Montreal,	5	1
lia,	620	12	1,345					Genoa,	2	3	1	Alexandria, 6cks.	1	3
iega,	152		1,380					Malmo,	5	4	104	Philadelphia,	13	1
Acid—								Brisbane,	1		10	Barcelona,	10	145
1 t. 7 c.			£45					Montreal,	9	8		Odessa,	10	332
ate of Lime—								Vera Cruz,	10	10		Leghorn,	1	34
its,	10 t.		£26					Algoa Bay,	2	42		Genoa,	6	10
orus—								Hamburg,	24	8	1	Hamburg,	1	16
urne,	23 cs. 3 c.		£240					Sydney,	6	133		Oporto,	10	60
ium Bichromate—								Klerksdorf,	1	20		Rotterdam,	1	12
1 t. 12 c.			£106					Valparaiso,	5	5				
ium Chlorate—								Rotterdam,	5	93		China Clay—		
sy,	4 cs.		£23					Antwerp,	3	1	3	Bahia,	16 cks.	
ork,	5 t. 8 c.		200									Boston,	982 t.	
ium Cyanide—								Calcium—				Montreal,	20	
Algoa Bay,	1 t.		£166					B. Ayres,	10 t. 9 c.	£25		Philadelphia,	50	
Bay,	7	10 c.	1,092					Calcium Chloride—				Chromic Acid—		
ore,	5 cs.		46					Adelaide,	8 drs.	£16		Antwerp,	19 c.	£63
ium Iodide—								Carbolic Acid—				Hamburg,	10	32
ta,	1 cs.		£12					Genoa,	1 t.	1 q.	£55	Citric Acid—		
ium Prussiate—								Hamburg,	8 c.		23	B. Ayres,	1 c.	£7
rp,	21 cks.		£157					New York,	1		58	Coal Products—		
lona,	8		131					Carbonate of Lime—				Aniline Colours		
ake—								Lisbon,	17 c.	£6		Barcelona,	5 cs.	
uzen,	165 t.		£12					Castor Oil—				Aniline Oil	1 dm.	
tre—								Addah,	10 cs.			Aniline Salts		
lar,	30 t.		£645					Winnebah,	18			Boston,	105 cs. 10 dms.	
n,	4	1 c.	89					Caustic Potash—				New York,	5	35 cks.
mbuco,	14	14	349					New York,	1 t. 3 c.	£27		St. Nazaire,	10	
e Janeiro,	2	18	63					Newport News,	10	13		Aurine Colour		
o,	2	12	63					Caustic Soda—				Hamburg,	1 kg.	
o,	3	11	76					Adelaide,	53 dms.			Creosote Oil		
lin,	3	10	12					Algoa Bay,		55 cs.		Copenhagen,	30 brls.	
urne,	3		70					Alicante,	30			Lisbon,	100	
Dip—								Ancona,	35			Naphthaline		
r,	100 cs. 50 drs.		£280					Antwerp,	35			New York,	48 cks.	
res,	230 pkgs.		250					Barcelona,	169	10 cks. 40 brls.		Pitch		
ido,	200 cs.		500					Bilbao,	60			Galatz,	60 brls.	
Bay,	1,000		250					Bordeaux,	37			Ibrail,	20	
Arenas,	500		1,050					Boston,	150			Shanghai,	80 tcs.	
igton,	100		250					Bremen,	20			Tar		
iston,	50		125					Calcutta,	87			Philadelphia,	200 brls.	
rtion,	55		138					Catania,	30			Copperas—		
tim,	80		200					Cincinnati,	50			Vera Cruz,	3 t.	£
Alkali—								Delagoa Bay,	10			Cairo,	13	23
1 t. 4 c.			£5					Demerara,	10			Valparaiso,	1	2 c. 3
Ash—								Fiume,	15			Copper Sulphate—		
urne,	10 t.		£41					Galatz,	20			B. Ayres,	15 c.	£18
alts—								Genoa,	229			Amsterdam,	2 t. 9	2 q. 44
ork,	9 t. 14 c.		£160					Hamburg,	85			Venice,	4	17
n Bicarbonate—								Hiogo,	137			Rotterdam,	2	10
own,	10 c.		£8					La Guayra,	10			Bourgas,	1	4
pe,	1 t.		6					Las Palmas,	6			Hamburg,	1	4
urne,	1	1	8					Leghorn,	69			Galatz,	1	4
istle,	1		8					Lisbon,	35			Nantes,	5	10
n Carbonate—								Madeira,	20			Bordeaux,	10	10
Bay,	14 c.		£5					Marseilles,	66			Marseilles,	10	10
n Prussiate—								Melbourne,	40	9 pkgs.		Montreal,	5	1
dam,	4 cks.		£40					Messina,	108			Vera Cruz,	1	108.
rp,	18		254					M. Video,	100			Bombay,	5	85
n Sulphate—								Montreal,	115	65	25 kgs.	Odessa,	5	2
ork,	3 t. 10 c.		£20					Naples,	35			Palermo,	10	11
								Newfairwater,	31			San Sebastian,	2	32
								New Orleans,	375	5 cs.		Bilbao,	5	82
								Newport News,	150			Victoria, B.C.,	1	5
								New York,	253	20	50 brls.			
								Oporto,	6			French Chalk—		
								Palermo,	20			Montreal,	5 brls.	
								Pernambuco,	50			Gelatine—		
								Philadelphia,	75	20 cks.		Boston,	175 bxs.	
								Rio de Janeiro,	42			New York,	175	
								Rouen,	34			Glue—		
								St. John's, N. Hd.,	9	10	5 pkgs.	Gibraltar,	3 cks.	
								Samarang,	9			New York,	200 bxs.	

LIVERPOOL.

Week ending August 21st.

PRICES CURRENT.

WEDNESDAY, AUGUST 28TH

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may

Acids:—		£	s.	d.
Acetic, 25% and 40%	per cwt.	6/	&	9/-
Glacial				10/-
Arsenic S.G., 2000°		0	15	0
Fluoric	per lb.	0	0	3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
(Cylinder), 30° Tw.		0	3	0
Nitric 80° Tw.	per lb.	0	0	1 1/2
Nitrous		0	0	1 1/4
Oxalic	nett	0	0	3 1/4
Phosphoric, 1750°		0	1	1
Picric		0	0	10
Sulphuric (fuming 50%)	per ton	15	10	0
(monohydrate)		5	10	0
(Pyrites, 168°)		3	0	0
(free from arsenic, 145°)		1	5	0
Sulphurous (solution) S.G. 1025		3	0	0
Tannic (pure)	per lb.	0	1	0
Tartaric		0	0	11 1/4
Arsenic, white powdered	nett per ton	15	0	0
Alum (loose lump)		4	12	6
Alumina Sulphate (pure)		4	12	6
Aluminoferrie		2	7	6
Aluminium	per lb.	0	2	10
Ammonia, Anhydrous		0	1	3
" 380=25° B.	per lb.	0	0	3
" 24° B.		0	0	2 1/4
Carbonate	nett	0	0	3 1/4
Muriate	per ton	23	10	0
(sal-ammoniac) 1st & 2nd	per cwt.	39/-	&	37/-
Nitrate	per ton	38	10	0
Phosphate	per lb.	0	0	7 1/4
Sulphate (grey) London	per ton	9	5	0
(grey) Hull		9	5	0
Aniline Oil (pure)	per lb.	0	0	5 1/4
Aniline Salt		0	0	4 1/4
Antimony	per ton	31	10	0
(tartar emetic)	per lb.	0	0	7
(golden sulphide)		0	0	10
Barium Chloride	per ton	6	7	6
Carbonate (native)		3	5	0
Sulphate (native levigated)		42/6	to	63/-
Bleaching Powder, 35%	nett	6	17	6
Liquor, 7%		3	10	0
Bisulphide of Carbon		13	0	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	2	6
China Clay (at Runcorn) in bulk		15/-	to	30/-
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20%	nett per lb.	0	0	8
Magenta		0	3	9
Anthracene, 30% A, f.o.b. London	per unit per cwt.	0	1	0
Benzol, 90% nominal	per gallon	0	0	11
50/90		0	0	11
Carbolic Acid (crystallised 40°)	per lb.	0	0	5 1/4
(crude 60°)	per gallon	0	1	7
Creosote (ordinary)		0	0	1 1/2
(filtered for Lucigen light)		0	0	2
Crude Naphtha 30% @ 120° C.		0	0	5 1/4
Grease Oils, 22° Tw.	per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston		1	15	0
Solvent Naphtha, 90% at 160°	per gallon	0	1	0
" Lucigen " and " Wells " Oils		0	0	2 1/2
Copper	per ton	47	7	6
Sulphate		16	10	0
Oxide (copper scales)		41	10	0
Glycerine (crude)		16	10	0
(distilled S.G. 1250°)		42	10	0
Iodine	nett, per oz.	0	0	9
Iron Sulphate (copperas)	per ton	1	5	0
Sulphide (antimony slag)		2	0	0
Lead (sheet) for cash		12	10	0
Litharge Flake (ex ship)		13	15	0
Acetate (white)		22	10	0
brown		14	10	0
Carbonate (white lead) pure		16	0	0
Nitrate		18	15	0
Lime, Acetate (brown)	per ton	5		
(grey)		8		
Magnesium (ribbon and wire)	per oz.	0		
Chloride (ex ship)	per ton	2		
Carbonate	per cwt.	1		
Hydrate	per ton	17		
Sulphate (Epsom Salts)	per ton	3		
Manganese, Sulphate		17		
Borate	per cwt.	2		
Ore, 70%	per ton	4		
Methylated Spirit, 61° O.P.	per gallon	0		
Naphtha (Wood), Solvent		0		
Miscible, 60° O.P.		0		
Oils:—				
Cotton-seed	per ton	18		
Linseed		22		
Petroleum, American	per gallon	0		
Stearine	per ton	24		
Phosphorus (yellow)	per lb.	0		
(red)		0		
Potassium (metal)	per oz.	0		
Bichromate	nett per lb.	0		
Carbonate, 90% (ex ship)	per ton	17		
Chlorate	per lb.	0		
Cyanide, 98%		0		
Hydrate (Caustic Potash) 80/85%	per ton	21		
(Caustic Potash) 75/80%		19		
(Caustic Potash) 70/75%		19		
Nitrate (refined)	per cwt.	1		
Permanganate	per cwt.	2		
Prussiate Yellow	per lb.	0		
Sulphate, 90% (ex ship)	per ton	9		
Muriate, 80% (do.)		8		
Silver (metal)	per oz.	0		
Nitrate		0		
Sodium (metal)	per lb.	0		
Carb. (refined Soda-ash) 48%	nett per ton	4		
(Caustic Soda-ash) 48%		3		
(Carb. Soda-ash) 48%		3		
(Alkali) 58%		3		
(Soda Crystals)		2		
Acetate (ex-ship)		14		
Arseniate, 45%		11		
Chlorate	per lb.	0		
Borate (Borax)	net, per ton	18		
Bichromate	per lb.	0		
Hydrate (77% Caustic Soda) (f.o.b.) net pr. ton		9		
(74% Caustic Soda)		8		
(70% Caustic Soda)		7		
(60% Caustic Soda)		6		
(60% Caustic Soda, cream) (f.o.b.)		6		
Bicarbonate		6		
Hyposulphite		5		
Manganate, 30%		16		
Nitrate (95%) ex-ship Liverpool	per cwt.	0		
Nitrite, 98%	per ton	29		
Phosphate		14		
Silicate (glass)	per ton	4		
(liquid, 100° Tw.)		3		
Stannate, 40%	per cwt.	3		
Sulphate (Salt-cake)	per ton	1		
(Glauber's Salts)		1		
Sulphide		8		
Sulphite		5		
Strontium Hydrate, 100%		8		
Sulphocyanide Ammonium, 95%	per lb.	0		
Barium, 95%		0		
Potassium		0		
Sulphur (Flowers)	per ton	6		
(Roll Brimstone)		5		
Brimstone: Best Quality		3		
Superphosphate of Lime (26%)		2		
Tallow		22		
Tin Crystals	per lb.	0		
English Ingots	per ton	68		
Zinc (Spelter)		15		
Chloride (solution, 100° Tw.)		5		

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Advertisements intended for insertion in the current week's issue
should reach the office by **Thursday morning at the latest.**

CURRENT TOPICS.

TRANSFERENCE OF CONTINENTAL PHOSPHATE MINES.

AN interesting change has just been completed on the
Continent in connection with the phosphate mines and
works of the Solvay Company at Ciply and Saint Symphorien,
which have been acquired by that extensive industrial concern
the Société Anonyme de Produits Chimiques de St. Gobain.

The works and mines employ about five hundred men.
Though now under the management of the French Company
there will be no changes in the administration, save that M.
Lemonnier, as manager, will be succeeded by M. Gailly, who
is already holding an important position at the Ciply works,
Owing, also, to the change in the proprietorship of these
works, French capitalists will be able to utilize the important
phosphate beds in the departments of Somme and Pas-de-
Calais.

By way of a set-off against these advantages, the French
Company has abrogated its right to establish works for the
manufacture of potash and soda, having undertaken to depend
upon the Solvay Company for their supplies of these articles,
and also the chemical products which are so largely used for
refrigeration purposes.

THE PURIFICATION OF THE MERSEY AND IRWELL.

The chairman of the Mersey and Irwell Joint Committee,
this week, having been relieved of Parliamentary duties, has
been reviewing the work that the Committee has achieved.
On the whole satisfactory progress can be shown, but the
most interesting and important points were those referred to
by Sir H. Roscoe. His remarks about manufacturers are
pleasant reading. Out of 256 analyses of manufactory
effluents made during the past eight months, only 74 gave
bad results, while it was admitted that in those cases where
bad effluents were reported, manufacturers had as a rule
responded in a satisfactory manner. The same can hardly be
said for local sanitary authorities and brewers, who we think
should not be classed as manufacturers, since their chief
pollution arises from barrel washing more than from any
waste products resulting directly from the beer-making
process.

In the course of the proceedings of the Committee on
Monday, our recent plea for consideration on behalf of
manufacturers who might be allowed to turn some of their
chemical effluents into the sewers, was very pointedly sup-
ported.

The Manchester Corporation were opposed to some 567,000
gallons of iron liquor from galvanising works being turned
into their main drainage sewers, although these liquors were
causing much trouble in the river Medlock, into which they
were discharged from the Bradford sewers. The Corpora-
tion's objection was based upon the apprehension of trouble
at their outfall works. Acting on scientific advice,

however, they ran the imaginary risk, and with what result? No trouble whatever was experienced, but on the contrary only good resulted, for the liquors were of themselves sufficient to treat the sewage coming down, thus saving the expense of further treatment with an iron precipitant at the sewage works. The manufacturers and users of chemicals are not after all a mere herd of heinous polluters and wholesale despoilers, but are possessed of a few saving graces.

CYANIDE IN THE TRANSVAAL.

A good deal has been said and done on both sides as to whether the supply of potassium cyanide for use in gold mining should be monopolized by certain individual parties or the Government, but the matter has at length been finally decided, as those who memorialised for the creation of a monopoly have been definitely informed that there is no intention on the part of the Government to monopolize the rights to either use or manufacture cyanide.

Whether just or unjust it is something to have an explicit and unqualified decision on the matter, otherwise there is no telling where you are or what you may do. The question as it has been settled may lie heavily upon some, but it must not be forgotten that what is good for the majority should always be selected where alternatives exist, even though in so doing the minority are decidedly losers.

THE ALKALI COMBINE.

THE chief topic of conversation on the Liverpool flags this week has been the alkali combine. It was well-known on Wednesday in last week that the negotiations between the leading firms had, after much protracted discussion, been brought finally to a focus, and it was rumoured that on Thursday the convention had been signed.

The conditions have been freely talked about on "Change and elsewhere," but it is probable that the exact terms as to the actual limitation of output will not be officially disclosed. It is stated there is to be a limitation of output all round, and the United Alkali Company, Limited, will have the selling of the whole of Messrs. Bowman, Thompson, and Company's make. This is confirmed by a circular already issued by the latter firm.

Alkali is to be advanced ten shillings per ton, and the United Alkali Company will supply Messrs. Bowman, Thompson, and Co. with pyrites from their "Tinto" mines, and receive back the cinders for their copper extracting works.

The part to be played by the other large alkali producers, Continental and American, is too much a matter of speculation at present to be more than mentioned, but we understand a statement is being prepared for private circulation to show how much need there was for this convention owing to the cost price having for so long exceeded the price capable of realisation.

DECLINE IN LIVERPOOL SALT SHIPMENTS.

THE last eight months have witnessed a very remarkable falling off in the exports of salt from Liverpool to the East Indies. A decrease of nearly 40 per cent. in the salt shipments from Liverpool to Calcutta is really a very remarkable circumstance, and, as far as the salt trade is concerned, is not likely to encourage the optimistic trade revival, speculations of which we are now hearing so much. The total tonnage of salt sent from the Mersey to Calcutta during the first eight months of the present year was only 127,766 tons, as compared with 197,689 tons forwarded during the first eight months of 1894. This 70,000 tons decrease was compensated for in some slight measure by an increase of shipments to Chittagong, since 19,586 tons were despatched to that port, compared with 2,970 tons between the 1st of January and the 31st of August, 1894. Other ports have suffered as well as Liverpool as regards Calcutta shipments, though not to the same extent, the total tonnage forwarded from other ports during the last eight months being 58,453, compared with 79,510 tons in the first eight months of last year.

[It must be noted that the shipments in the early part of 1894 were abnormally and ill-advisedly excessive, so that the comparison is rather misleading.—Ed. C.T.J.]

Parliamentary Jottings.

THE MANUFACTURE OF CORDITE.

IN the House of Commons last week, replying to Mr. Weir Powell Williams said arrangements for the manufacture of cordite had been made with Messrs. Kynoch and Co., of Birmingham with the National Explosive Company, London.

Mr. Weir asked if the Government had carried out the arrangements made by the late Secretary for War to provide private firms special machinery for the manufacture of cordite.

Mr. Woodall declined to accept the statement as accurate. Mr. Powell Williams said he knew of no such arrangement.

Mr. Weir said he would call attention to the subject in the Estimate.

Mr. Powell Williams, replying to another question by Mr. Weir, said that from 1889 to the present time £47,750 had been expended on machinery for the manufacture of nitro-glycerine and cordite, money had been given to private works for the same purpose.

On Saturday, also in reference to cordite, Mr. Broderick said he had laid it down for our special guidance that it is not sufficient to take the vote and give the order, but that we must receive the ammunition, (Hear, hear.) We cannot, therefore, undertake to give orders to trade firms whose supplies might be rejected, leaving the Office to find themselves with half their money unexpended. We looked round to see the most economical and efficient way of getting the ammunition, and we have decided that it is desirable to order trade firms by contract all the components which we can get ammunition and to make them up at Woolwich.

EXPORTS OF PETROLEUM FROM U.S.A.

THE Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for July. The total shipments were 69,741,930 gallons compared with 72,022,355 gallons in July, 1894. The total for the twelve months ending July, 1895, was 472,101,209 gallons against 493,521,203 gallons during the same period in 1894. Details of the shipments are as follow:—

CRUDE PETROLEUM.		Gallons.
Total, July, 1895	.....	7,505,057
" " 1894	.....	5,488,864
NAPHTHAS.		
Total, July, 1895	.....	1,083,006
" " 1894	.....	1,410,431
ILLUMINATING.		
Total, July, 1895	.....	59,412,190
" " 1894	.....	62,510,462
LUBRICATING AND PARAFFIN.		
Total, July, 1895	.....	3,726,599
" " 1894	.....	2,605,710
RESIDUUM.		
Total, July, 1895	.....	15,078
" " 1894	.....	6,888

CELLULOSE OUT OF REFUSE FIBRE.—By a new process, the fibre from paper-mills is to be made into celluloid. The surplus material is collected from water used in washing. By the addition of chemicals these fibres are precipitated and form a filmy mass, which is strained, allowed to settle, and then pressed into a solid body, being put through some very simple processes, it can be cut in and arranged in any required form. This is a valuable discovery, it utilizes that which heretofore has gone to waste. The product differs from ordinary celluloid in that it is positively non-inflammable and has sufficient rigidity to make it available for stereotyping similar purposes.

THREATENED SCARCITY OF PLATINUM.—The review of the mineral resources of the United States, issued by the Geological Survey, states that the production of platinum is still insignificant. The result of the examination of the black sands of the Oregon beaches have been a disappointment, the amount of platinum being scarcely noticed although the sand contains \$1.55 in gold per ton. The entire platinum output of the Ural Basin, a foreign journal announces, has been at very high prices for ten years ahead. Some years ago this cost 2,700 roubles per pood of 36 English pounds. In 1893 an English firm acquired the decadal production of the Tagil Mines at the rate of 8,000 roubles per pood. Now a French electrical company has concluded a contract with the remaining Ural mines for the next ten years' output at the rate of 12,500 roubles.

The Patent List.

is compiled from Official sources in the Manchester Laboratory, under the immediate supervision of Davis and Alfred R. Davis, who report professionally the value of Chemical Patents.

NOTIFICATIONS FOR ENGLISH LETTERS PATENT.

for Primary and Secondary Batteries. L. Epstein, 15,564.
of Manures. F. W. Saatmann, 15,566. August 19.
in Manufacture of Soap, Sheep Dip, &c. F. W. Saatmann.
August 19.
Bunsen Burners Firing Back. C. F. N. Hall and T. W.
15,617. August 20.
Cyanide Salts from Aqueous Solutions. R. Addie, 15,626.
Precious Metals. W. H. James, 15,656. August 20.
in Steam Traps. S. H. Stubbs, 15,724. August 21.
Inkots, &c., from Wood Pulp. The Kellner Partington Paper
Ltd. 15,783. August 22.
in Liqueurs. J. W. Stevens, 15,807. August 22.
in the Production of Chlorine. F. M. Lyte, 15,813.
in Furnaces. Count T. Miaczynski and R. L. Puciata.
August 22.
Gold, &c. from Slimes and Tailings. J. D. Gilmour, 15,844.
in the Manufacture of Magnesia. M. N. d'Andria.
August 24.
in Smelting and Desulphurising Slag Ores, Iron and Other
J. B. Torres, 15,926. August 24.
in Smelting Process and Apparatus. W. P. Thompson, 15,954.
Granulated Aluminium and Magnesium. W. L. Wise.
August 24.

TRACTS OF LATEST COMPLETE SPECIFICATIONS.

*tracts are specially prepared for the Chemical Trade Journal
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tracts of Chemical and allied patents accessible to the*

in the Manufacture and Production of Polysulphides of
Sodium and Sodium. B. von Schenk, 1, Lauerstrasse, Heidelberg.
11,786. June 17, 1895.

Hydride of calcium, which is used in many manufacturing
for scouring and cleansing, is often found to be too corrosive;
alkaline polysulphides are practically neutral. Prepared by
method of boiling with excess of sulphur, however,
reactions prevent the production of a uniform compound.
proposes the formation of calcium polysulphides and their
conversion into alkaline salts by means of sulphate, or
soda, forming insoluble sulphate or carbonate of lime,
the solution of alkaline polysulphide can be decanted. In
table mixture of water, sulphur, and calcium hydrate is
used, taking certain necessary precautions. The lye obtained
allowed to settle, and subsequently decanted. After further
of soda is added, well-mixed, decanted, and the solution
to dryness, ground, sifted, and packed in tightly closed
The resulting product, which is termed "polysulphine,"
for the preparation of cleansing lyes of any strength.

in Relation to the Manufacture of Cyanides, and to Apparatus
J. Pfeiffer, Kaiserslautern, Germany. Eng. Pat., 18,519. Sept.

is taken as usual of the reaction between carbon, alkali
(potassium or sodium carbonate), and atmospheric nitrogen at
temperatures; only, contrary to all former methods, oxygen is
excluded instead of being carefully excluded. It is claimed that
yield is greatly increased, even up to 95 to 98 % of the
amount.

to publish the process flat-bottomed covered chambers that can
externally are used, over which the mixture of alkali and
lead in thin layers, the cover being so close to the surface
that air necessary for the local combustion can enter.

Local heating of the chambers must not be greater than will
be on at the bottom to burn as soon as air is admitted. The
fuel is then treated in any of the usual ways for obtaining
Instead of air any oxygen-bearing compounds such as
are added to the mixture.

At the chambers from the reaction material a lining of
is suggested, either alone or mixed with clay. It is claimed
process is completed in 5 to 7 hours less time than by the old
method of using de-oxidised air.

Improved Hematite Slag Manure. H. P. Pease, Normanby Iron Works,
Middlesbrough. Eng. Pat., 12,566. June 29, 1895.

The slag obtained from blast furnaces during the smelting of pig iron
from hematite ores is granulated mechanically and mixed with 5% of
salt. Its chief advantage is the property the mixture has of freeing
land from weeds, slugs, etc., and in opening up peaty and heavy soils.
It is claimed also that the inert ingredients of the soil are also rendered
available, notably silicates for wheat, oats, barley, and rye.

Manufacture of the Sulphocyanides of the Quaternary Ammonium Com-
pounds of Quinoline, Pyridine, Antipyrine, and Isoquinoline, and
their Derivatives. A. M. Clark, of 53, Chancery-lane, London (communi-
cated by Drs. A. Edinger and A. Müller, Rüdelsheim, Frankfurt-a-Maine).
Eng. Pat., 18,516. Sept. 29, 1894.

The sulphocyanides of the corresponding quaternary ammonium
bases from the halogen-alkylates and the acid derivatives of the above-
mentioned compounds are prepared by decomposing the same with
salts of hydrosulphocyanic acid. Four examples are described in full.
The products are chiefly useful on account of their antiseptic but non-
poisonous qualities.

Improvements in Apparatus for Electrolysis of Alkali Salts with
Quicksilver as Cathode. H. C. F. Störmer, 5, Zethlitz-Grade, Christiania.
Eng. Pat., 10,445. May 27, 1895. (Under International Convention,
November 26, 1894.)

With a view to prevent the amalgam formed with the decomposed
electrolyte taking up oxygen and being lost, the mercury cathode is
kept in a state of constant oscillation, though the motion must not
be sufficient to rupture the surface skin of the mercury. When well
charged with amalgam the cathode is run off into a separate vessel
and the alkali metal separated, leaving the mercury ready to be re-
turned to the electrolysis cell. There are four drawings.

Improvements in the Electrolysis of Metallic Salts. C. Kellner, 29,
Wasagasse, Vienna IX., Austria. Eng. Pat., 7,1458. April 11, 1895.

The object is to facilitate the decomposition of the amalgam formed
with the mercury cathode in separate vessels, and also to recover the
energy produced by the decomposition. Three drawings show the
arrangement of the cells in which the amalgam is decomposed, and
which are connected in series.

Improved Apparatus for Concentrating and Distilling Sulphuric Acid,
and Other Liquids of High Boiling Point. O. Krell, Hüsten,
Westphalia. Eng. Pat., 18,727. October 3, 1894.

The uneven heating of platinum vitriol concentrating retorts when
fired direct is one of the chief causes of excessive wear and tear. In
the inventor's arrangement a cast-iron platinum lined tube or a similar
suitable arrangement is immersed in a bath of molten lead. The
rectifying tube is horizontally situated, and closed at each end to half
its diameter by two partitions. The apparatus is shown in plan, and
in cross and longitudinal sectional elevation. It is claimed that
owing to the even heating the decomposition of the acid into water and
anhydride is largely avoided. The tube can be turned round and
reversed from time to time to ensure even wearing.

Improvements in the Process of Evaporating Silicate or Soda Solu-
tions. J. J. Crofield and K. M. Markel, Soap Works, Warrington.
Eng. Pat., 18,998. October 6, 1894.

The improvements consist in cheapening the process of concentrating
and making it possible to prepare solutions so strong that they are semi-
solid, thereby preventing leakage in hot countries. When concen-
trating in open vessels the neutral silicate cannot be got above 120°Tw.,
and the alkaline silicate above 145°Tw., owing to the formation of a
skin, which prevents further evaporation of water. By this patent the
concentration is carried out in closed vessels under a vacuum, whereby
the formation of the previously mentioned skin is prevented, and also
no dehydrated silicate is formed, owing to the lowering of the boiling
point under vacuum. In this way a solution of 170° to 180°Tw. can be
obtained. The process is also applicable to silicate of potassium.

PERSONAL.—It is with pleasure we learn that Dr. Lewkowitsch, of
Lancaster Avenue, Fennel-street, Manchester, has been appointed
examiner in soap manufacture to the city and Guilds of London Insti-
tute, as successor to the late Dr. C. R. Alder Wright.

COAL IN CHINA.—The only coal mines in the Celestial Empire
that are now worked on anything like practical lines are those at
Haiping. Some 1,200 hands are employed on them, and the daily
output ranges from 1,000 to 1,200 tons. Competent judges have
estimated the area of China's available coal fields at no less than
400,000 square miles. If, under the pressure of the war indemnity
levied on her by Japan, the Mandarins elect to develop the coal
industry that has for centuries been lying dormant, Newcastle may
find the Celestial Empire a dangerous rival.

Modern Oil Engines.

THE CROSSLEY ENGINE.

THIS engine is practically the counterpart of the gas engines for which Messrs. Crossley Bros. are so well known. The "Otto" principle is used in just the same way as in the gas engines, except that special means are adopted for the generation of the gas or vapour from petroleum oil. This conversion of oil into vapour is effected as follows:—The petroleum oil, which is stored in a tank in the foundation of the engine, is, by means of the small pump shown in the illustration, delivered to the vaporiser in exact quantities in proportion to the power given off by the engine. There it is vaporised and changed into gas, passing to the cylinder through an ordinary gas-valve, similar to that in the gas engine. The requisite air for its combustion is supplied through a separate automatic valve. On completion of the charging stroke the "Otto" cycle of compression, ignition, and exhaust take place exactly as in the gas engine.

light $3\frac{1}{2}$ pints. The consumption under varying loads is, therefore, satisfactorily low.

The following data in reference to the work of a 4-H.P. nominal engine used for charging electric lighting accumulators are of interest, and are taken from a report made on tests carried out at Derby. The power in the cells was used to do the blowing for heating the ignition tube, and also starting the engine. In the former case, the power absorbed by the dynamo running as a motor was 20 ampères at 100 volts, that is to say 2.6 H.P. or 0.5 B.T.U., the time occupied being fifteen minutes.

For starting 0.033 B.T.U. were required.

The following particulars show the work done when charging the accumulators:—

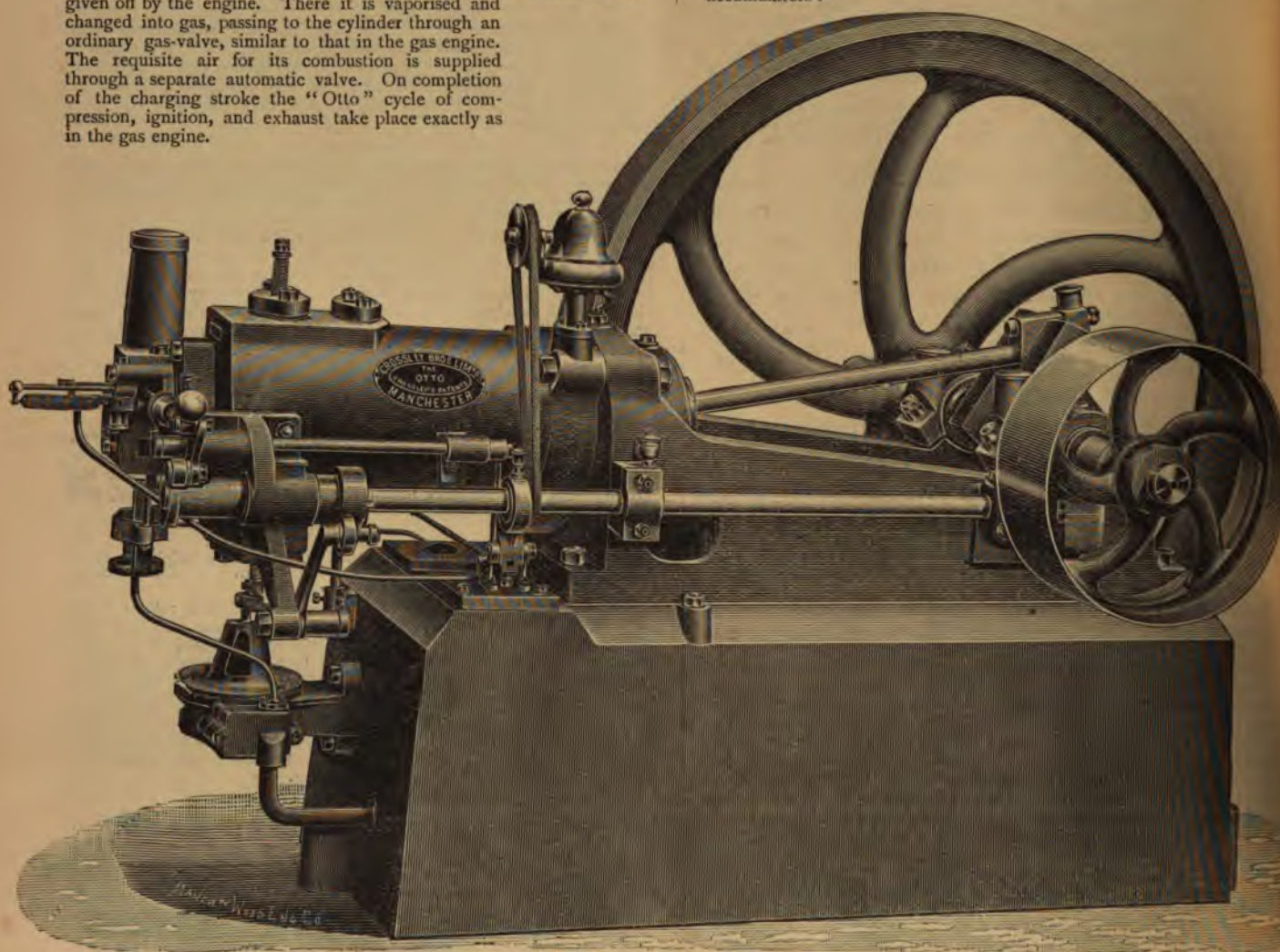


FIG. 1.

In order to avoid electricity a simple arrangement has been adopted for heating a tube for ignition purposes. This consists of a blowing arrangement and oil flame, the oil for which is supplied from the main tank, by the same pump used for pumping the power charges of oil to the vaporiser.

The vaporiser block is of the latest pattern, and is heated by means of a lamp controlled by a new patent oil-regulating apparatus fed by the simple oil plunger pump just referred to. The patented oil measurer governs the amount of oil supplied to the vaporiser. The engine is fitted with an efficient governor, working on the "hit or miss" principle, such as has been used for many years with perfect success in the gas engines, while the ignition of the charge is controlled by a timed valve in all sizes above 2 H.P. A supply of oil, sufficient for a ten hours' run, is contained in a tank in the engine foundation, and it can be replenished when necessary without stopping the engine.

With the exception of the smallest size the consumption of oil per B.H.P. at full load, including the oil used in the ignition lamp, is practically $\frac{3}{4}$ th pint, at half load the amount rises to $\frac{3}{8}$ th pint, and running

The capacity of the accumulators being 220 amp. hours, and charging at an average rate of, say, 130 volts and 40 ampères for $5\frac{1}{2}$ hours (28.6 Board of Trade units), the H.P. put into the cells is, approximately, 7, and that given out by the Engine, 8.7.

The cost of oil burnt in the Engine during one complete charge will, therefore, be 2s., assuming the oil to cost 5d. per gallon.

Of the 28.6 units put into the cells, say 60% or 17 units will be used in the lamps; therefore, 2s. for oil burnt in the engine will give 17 units for the lamps, or 1.4 pence per Board of Trade unit.

Taking an average of two charges per week for fifty-two weeks per year, the consumption by current by the lamps would be 1,768 units, and these at 1.4 pence per unit represents the

Cost of oil per year	£10	6	3
Allow depreciation on £450. at 5%	22	10	0
Oil, waste, and water	2	4	9
Renewals of lamps, 20 at 1s. 9d. per year ...	1	9	0

Total cost per year £36 10 0

erunit, working out at 5d., this being equal to gas at 2s. 6d. cubic feet.

estimate of the capabilities of the engine can be formed following, which has reference to an engine working a corn engine is a nominal 4-H.P., and when working at $6\frac{1}{2}$ P. consumes three gallons of oil in five hours.

s to which these engines can be put are of course manifold, need enumerating, but we have illustrated one special use likely to prove convenient for a number of varied purposes. A combined oil motor and air compressor is shown, the latter by 12", and works at a pressure of 20lb. It is the type

loose pulleys on the machine, and the belt can be taken "fore" or "aft."

The circulating water for cooling the cylinder is carried in a tank underneath the main frame of the engine, and is forced round the cylinder jacket by means of a pump worked from the side shaft of the engine. The water passes back into the tank, where by means of a special arrangement it is broken up into spray and cooled by a current of air induced by the exhaust from the cylinder in its passage up the chimney. The maximum quantity of water required is about 20 gallons, and at full load 2 to 3 gallons an hour is all that is necessary to replace that lost by evaporation. If the engine is working with a

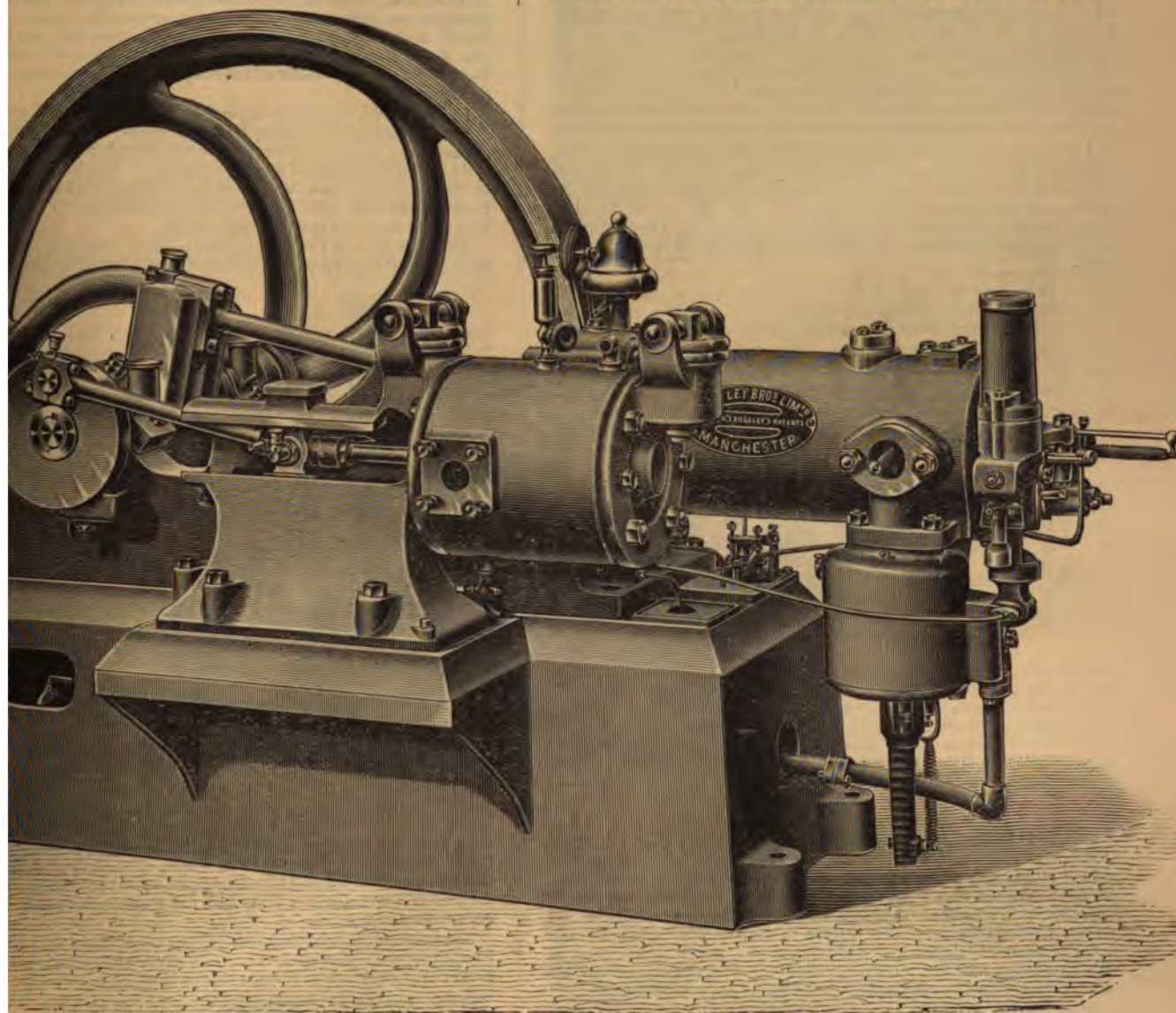


FIG. 2.

e Lighthouse Boards for fog signal syrens, etc., and has been employed by the North Lighthouse Board. Its application, however, are not confined to syrens.

ity is made in connection with oil engines of the portable which this firm has given a good deal of attention. The strated in Fig. 3 is self-contained, and requires no accessories water tanks, exhaust box, exhaust or air pipes, and can be m place to place by means of horses, like other portable engines.

working parts of the engine are similar to those of the stationary are very accessible. The reciprocating parts are balanced by segmental discs fixed on the crank webs, thus making the as steadily as possible. The engine is also fitted with a wheel, and driving pulley wide enough to drive on to fast and

moderate or varying load, the water contained in the tank will be sufficient for a day's work, if replenished each day at starting. An efficient silencer is fixed in the chimney to quieten the exhaust.

Automatic lubricators are fixed to all the working parts, and the crank pin is provided with a new continuous lubricator, which enables the engine to run for long periods.

The engine is fitted with strong wrought-iron travelling wheels, with swivelling truck in front, and is specially designed for moving over rough ground. Shafts or a pole can be fitted as desired. A strong slipper-brake is provided for the rear wheels.

Consumption of oil.—The guaranteed total consumption of oil at full power of the 7-Brake-HP. Engine, including that used for the lamp, is $\frac{3}{4}$ of a pint per brake-h.p. per hour, or $5\frac{1}{4}$ pints per hour at full load.

The weight of the engine, with shafts, &c., complete, in travelling order, is about 3 tons.

For both the stationary and portable types any kind of petroleum illuminating oil can be used, no preference being given to either American, Russian, or Scotch brands. Thus that which happens to be the cheapest can be used.

THE CHEMICAL INDUSTRY OF BERLIN.

THE following is a special abstract of the report on the German chemical trade during 1894, which is prepared, and has recently been issued, by the Berlin Chamber of Commerce. The report for the previous year will be found on page 177 of issue 383 of this *Journal*. The course of business, so far as the chemical industries of Berlin are concerned, for 1894, was, generally speaking, less favourable than it might have been, on account of a marked over-production in certain articles, which brought about an inevitable corresponding fall in prices.

It is true that the commercial treaty made with Russia in the spring, and the new United States tariff which came in force in August, instilled a little life into the business relations with those countries, and laid a surer foundation for future enterprise, but the precise effect of these measures still remains to be seen, as trade in the two directions cited continued to assume very ordinary proportions till the end of the year.

methods of manufacture with their competition renders it certain that even this moderate figure will not be maintained. Sales of the principal raw material, *i.e.*, the Potash Salts of Silesia, have shown a steady increase, but at unchanged prices.

For *Oxalic Acid* and *Oxalates* a healthier position was attained at the International Convention, and in this way the price for the year was raised to 70m. per 100 kgs.

On the other hand the manifest over-production of *Boric Acid* and *Borax* compelled the combined producers to reduce prices by one-third.

As regards *Chlorate of Potash* the condition of the market was unfavourable. The distinct improvement in price caused by increased consumption of the previous year crumbled away throughout the whole of 1894, till by the end of the year 95m. per 100 kgs. scarcely be obtained for best quality, while the new competition from Sweden renders it a matter of certainty that still lower prices will be reckoned upon.

In spite of the consistent demand of the previous year, the *Silicate of Soda* show a falling off for the period under review. Nevertheless, two new works have commenced to produce, so that there is no immediate prospect of any improvement. The lively business in the past with Russia in this article is still lost to Germany, as glass was not dealt with in the recent tariff changes. The export with other countries remains unchanged.

The sales of *Soda Crystals* (a trade almost confined to Berlin and the neighbourhood) were not materially different from those of



FIG. 3.

Of the individual items for our consideration we may take first *Sulphate of Ammonia*, which, till late in the spring, found an abundant sale at satisfactory prices, the best dried quality fetching as much as 29 marks per 100 kilos. In the last months of the year, however, a reaction set in; business suddenly came to a complete standstill, and values declined by leaps and bounds to 24m. The cause for this must be looked for in the decreased demand for manurial purposes, as the high prices and the uncertain condition of agriculture could not fail to bring about an appreciable shrinkage in the consumption.

Carbonate of Ammonia improved somewhat in the early part of the year, but this was followed by a retrograde movement towards the close—partly on account of English competition and partly on account of the influence of the above-mentioned fall in sulphate. The same remarks apply also to *Liquid Ammonia*. At first a brisk demand caused an appreciable stiffening in price, but the stagnation which followed in the last months of the year quickly brought about the inevitable reduction. The commercially pure article of 0.910 sp. gr., after rising to 39m. per 100 kgs., sank back gradually to 35m.

For *Salammoniac*, best quality, an average of 56m. per 100 kgs. was obtainable. The change in commercial relations with Russia has again made it possible to send salammoniac and other ammonia compounds into that country, but so far prices have not been affected by the expansion.

The demand for *Potash* remained normal throughout the year, and 38m. to 39m. were the values for 96-98% of good quality. The fact that the new electrolytic works are distinctly threatening the older

methods of manufacture with their competition renders it certain that even this moderate figure will not be maintained. Sales of the principal raw material, *i.e.*, the Potash Salts of Silesia, have shown a steady increase, but at unchanged prices.

The price of calcined *Sulphate of Soda* went down to a point not touched before. Heavy stocks of this material were accumulated, and could only be realised at a considerable sacrifice.

Nitric Acid remained somewhat depressed as in 1893. The price for the refined article, 80°Tw, was only about 23m. per 100 kgs. in spite of the large size of packages. The value, however, kept fairly constant throughout the whole year, though uninfluenced by the fluctuations of the soda market.

Sulphuric Acid remained throughout in good demand, and at times even scarce. In spite of this no solid improvement in price could be effected, and on an average the concentrated article only 6.50m. per 100 kgs.—this in quantity and including package price of the weaker qualities suitable for manure making fell below the year's mark, when the production could be easily disposed of. This was no doubt owing to the depressed state of agriculture, which was more keenly felt in the second half of the year. *Hypophosphoric Acid* found a ready sale at somewhat improved prices.

The quotations for *Wood Spirit* showed a marked falling off on account of the excessive imports from North America, and it is difficult at the moment to see how matters are likely to be improved in this respect.

same remarks apply to *Acetic Acid*, the price of which has partly on account of home competition and partly because of the price of lime forced upon the market at low prices.

Carbonic Acid has found an increased application not only in the beer and mineral water trade, but also for cooling purposes in the preparation of baths, so that sales increased 10% in spite of the beer boycott, and the variable weather in the summer.

The financial report, however, is not so favourable, as an increased competition brought about the inevitable decrease in price. The trade in this article is, even as regards European countries, very much restricted by high transport charges and a tariff which is calculated on the gross weight, so that these costs often amount to more than the actual value of the article. The same remarks apply to the sea-borne trade, though in the hands of the industry many profitable orders came from abroad—chiefly from Germans who had learned the value of the product at

market in *Tar Products* was favourable in that it allowed them to work full time and place all their products, but the financial result did not correspond with the volume of business.

Particular, *Pitch* and *Tar* for roofing purposes were in good demand, not so much on account of any general activity in the building trade because of a demand for roofing material caused by storms in the north.

Other tar products there is little to chronicle save that only in a few favourable instances have even last year's low prices been reached—in most cases they have sunk yet lower. This remark applies to *Benzol* especially, which in the course of the year has fallen from 40m. to 30m. per 100 kgs. Efforts have been made to dispose of the large quantities of benzol extracted from coke-oven gas, and as this seems to be a practical way of coping with the difficulty of over-production, it is to be hoped that the process will make good headway.

Remaining tar products used in the colour industry, *Toluol* and *Naphthalene* are likewise depreciated considerably in price. *Anthracene* has remained unchanged, and though there has been a better demand for *Creosote* there has been no improvement in its price. In like manner *Phenol*, *Cresol*, and the *Pyridine* bases have shared in this retrogression.

The consumption of intermediate products used in the tar colour industry has not sensibly differed from that of the previous year. Advantages consequent upon the introduction of the new commercial treaty with Russia have been neutralised by a diminished trade with the East, which is explained by the fact that during the tariff war Russian demand was supplied by Germany through English intermediaries, for whose services there was no longer any necessity when a new tariff came into force. While the selling price of these materials has receded, that of the raw materials has remained on the whole unchanged, some having fallen in value while others have risen somewhat, but taking everything into consideration the year cannot be recorded as a favourable one for this branch of the industry.

The development of the tar colour industry was satisfactory. It is true that the downward tendency of the older colours, which was marked in the previous year, continued, but this was more than compensated by the introduction of new specialties, and this manufacture has profited considerably by the low prices of the raw materials, benzol, as already mentioned, touched the lowest price on the market. In the second half of the year this industry suffered a check from the China-Japanese war, which considerably interfered with the far East. In Russia the lost ground could only be recovered with the help of the revised tariff, at the expense of considerable sacrifice as regards *Aniline Oil* and *Aniline Salts*, and it is probable that in the future German enterprise will have to deal with the increased English competition in this market. An appreciable place also took place in the trade with the United States when that country amended its tariff, but it is evidently incumbent upon German exporters, if they wish to render their business independent of foreign markets, to extend their commercial relations still more widely than has hitherto been done.

Alcohols and *Varnishes* a fairly satisfactory business has been done. An increased demand seems to have sprung up in this direction, and foreign trade in particular has largely developed.

Trade in *Pharmaceutical Chemicals* has compared favourably with that of the previous year, as though prices have ruled lower, the volume of business has more than correspondingly increased. In this branch other departments, however, there would seem to be a head from excessive over-production.

DISSENT ABOUT NITRATE.—It is reported from Germany that a good deal of dissatisfaction exists among German holders of nitrate companies at the refusal of some of these companies to enter into a fresh combination to keep up the price of their product.

Trade Notes.

THE PRESIDENCY OF THE ROYAL SOCIETY.—It is reported that Lord Kelvin will resign the presidency of the Royal Society this year, and that his successor in all probability will be Lord Rayleigh.

CHEAPENING CALCIUM CARBIDE.—The Neuhausen Aluminium Company announces that, in consequence of improvements in the manufacture, calcium carbide can now be supplied in quantities of not less than one ton, at £20. 5s. 7d. per ton of 2,240 lbs.

THE BRITISH ASSOCIATION AND BIMETALLISM.—At the meeting of the British Association next week an important discussion will take place on the currency question. The president of the section will be Mr. L. Price, Bursar of Oriel College, Oxford, and it is expected that the most prominent advocates of bimetalism and monometallism will either read papers or take part in the discussion.

NITRATE STATISTICS.—The Permanent Nitrate Committee's public statistical circular for September shows:—Total exports to Europe in August amounted to 1,200,000 qtls.; loading for Europe, 1st September, 2,700,000 qtls. Imports: Europe, August, 73,950 tons; deliveries in Europe, August, 42,840 tons. Visible supply: Europe, 1st September, stocks and afloat, 317,200 tons.

THE WAGES OF SCOTCH SHALE MINERS.—On Tuesday the Scottish Mineral Oil Trade Association, at a private meeting held in Glasgow, unanimously agreed to refuse to grant the demand of the shale miners for an advance of 1s. per day. The masters contended that, considering the position of the oil industry, their miners were paid higher than ever. The Scotch coal miners met on Thursday to decide whether to enforce their demand for a shilling daily advance.

THE DRUG, CHEMICAL, AND ALLIED TRADES EXHIBITION.—The preparations for this exhibition are now practically completed, and give satisfactory promise of a successful opening on Tuesday next. The exhibits run well into the sixties, so there should be plenty to interest and occupy those not directly connected with the trade who think of visiting the Agricultural Hall, London, on Tuesday the 10th inst. and the three following days.

WOOD PULP via THE CANAL.—Within the last few days the following cargoes of wood pulp have been discharged in the Manchester Docks, ex the steamers *Borregaard*, 596 tons, from Frederikstadt; *Odin*, 371 tons, from Skien; and *Tyr*, 441 tons, from Gothenburg. The *Malachite*, 196 tons, a full cargo from Skien, and the *Girasol*, 210 tons, from the same port. The following wood pulp laden steamers are expected shortly:—*Primate*, 1,098 tons, from Sundswall; *Courier*, 362 tons, from Sannasund; *Amethyst*, 313 tons, from Drontheim; and *Norronea*, from Kotka. Another cargo of esparto grass for Manchester has been fixed by the steamer *Kirtle*, from Almeria.

REWARDS FOR SMOKE ABATEMENT.—The Sheffield Smoke Abatement Association have drawn up a scheme of providing awards for engine drivers and tenters who, by exercising care in their work, reduce the black smoke emitted from their chimneys to a minimum. It is recognised that, to a very large extent, the smoke nuisance is the result of careless firing, and that, with the improved appliances now in use, it might be greatly modified if the men were more interested in their work. The Association are now prepared to give prizes to those stokers who can show the best results from their chimneys, which will be watched by the inspectors of the Association, whose visits will, of course, be paid without warning being given. Much interest is being taken in the experiment by the Sheffield manufacturers.

THE GLASGOW SEWAGE WORKS.—The Glasgow Corporation having some time ago made a first step towards the purification of the Clyde by erecting the Dalmarnock Sewage Works, has now resolved to erect additional sewage works and pumping stations at a cost of £602,000. These will, it is expected, prove enough for the part of the city to the north of the river, though still leaving one-third of the city and the whole of the suburbs to be dealt with. The Dalmarnock Sewage works, though they have served their main end of purifying the river, have in one respect proved a failure. They do not, as was half expected, yield any revenue!

CHILI AND GUANO SHIPMENTS.—In reference to the statement which has recently been circulated to the effect that the captain of a British barque had been ordered by a Chilean warship to desist from shipping guano from Lobos islands, off the coast of Peru, on the ground that the land belonged not to Peru but to Chili, the Exchange Telegraph Company is in receipt of official information from the Chilean legation to the effect that according to the treaty concluded between Chili and Peru after the war, the Lobos islands were to remain in the possession of Chili until a million tons of guano had been taken from the islands. After the intervention of the Powers, however, a protocol was signed on the 5th December, 1893, by the Chilean Minister for Foreign Affairs and the Peruvian representative, by which the islands of Lobos were delivered by Chili to Peru for the purpose of satisfying the claims of the Peruvian bondholders.

IRON ORE IN IRELAND.—For some time past mining operations have been going on near Cookstown, county Tyrone, where it is reported that valuable iron ore *strata* have been discovered. On Saturday last a representative of Mr. Joseph Hunter, Port Glasgow, visited the place, and made exhaustive inquiries as to the available quantity of ore, the cost of labour and transit, and the possibility of a tramway being made from the new mines to Cookstown.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are practically unchanged, though, for the country 50/90's and 90's are quoted $\frac{1}{2}$ d. higher. There is nothing fresh to record about carbolic acids. Napthas are quiet, at $5\frac{1}{4}$ d. for crude and 1s. for solvent. Anthracene is cheaper, with 30% A at $11\frac{1}{2}$ d., and B $9\frac{1}{2}$ d. Creosote unaltered. Pitch continues firm, at 38s. 6d. for prompt and forward f.o.b. East Coast.

Sulphate of ammonia keeps fairly steady. The month has opened quietly, there being few buyers, but in the absence of any great pressure to sell prices are steady. The troubles in the shale mines may strengthen the market in the North. Prices are: London £9. 5s., Liverpool £9. 6s. 3d., Hull £9. 5s., and Leith £9. 6s. 3d. Nitrate weak.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade the chief event of the past week has been the advance in price by 10s. per ton of ammonina alkali 58%, which is now quoted firm at £3. 7s. 6d., bags, f.o.r., makers' works. The large ammonia soda manufacturers are now in working agreement, and the market is strengthened accordingly with every prospect of prices being maintained. Caustic soda has rather a firmer tendency, but so far spot quotations remain as for some time past, viz:—F.o.b. Liverpool, 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 60%, £6. 10s. per ton, 10-ton lots and upwards. Bleaching powder is rather more active for forward delivery at £6. 17s. 6d. to £7., f.o.r. makers' works. Some forward sales over 1896 have been made at £6. 15s., but price is now quoted £7. per ton. Chlorate of potash still rather quiet at $4\frac{1}{2}$ d. per lb. Chlorate of soda, $6\frac{1}{4}$ d. Soda crystals, 37s. 6d. per ton, bags, at works. Bicarbonate in all grades is unaltered. In salteake stocks are reduced, and price firmer at 20s. f.o.r. Recovered sulphur remains at £3. 12s. 6d. makers' works. Sulphate of copper steady at £16. 10s. to £16. 15s. f.o.b. There is good demand for potash, caustic and carbonate, and prices are steady. Yellow prussiate of potash quoted at $7\frac{1}{4}$ d. Sulphocyanides are quiet, and prices unchanged. Cyanide of potassium, 96% to 98%, 1s. 4d. to 1s. 5d. per lb. Brown acetate of lime still offering at the low prices recently touched, and fairly large stocks are held. For grey acetate of lime there is no demand. Acetic acid, 40%, selling at 9s. 6d. to 10s. per cwt. according to locality. Demand for arsenic is still brisk, and stock is small; price, £15. net, f.o.r. Garston. Muriate of ammonia scarcer, and quoted £23. 10s. to £24. For the miscellaneous goods in the chemical trade, there is no material improvement in demand yet noticeable, but there is, generally, a rather better tone in the market.

REPORT ON MANURE MATERIAL.

There is a moderate amount of business doing, but at prices rather favouring buyers, who still show great indisposition to buy freely or very far ahead. There is more business doing in high grade Florida Rock (75/80%) for the Continent and the Baltic, at prices fully equal to $6\frac{1}{2}$ d. c.i.f. good United Kingdom ports. The quotations for other descriptions of rock remain as last reported. River Plate bones are unchanged, latest business reported being at £4. 5s. per ton, delivered to good United Kingdom ports. Crushed Kurrachee bones offer at £4. 2s. 6d. per ton, ex quay, and Bombay bone meal at £4. 3s. 9d., autumn shipment, without finding buyers. Nitrate of soda is weak, at 8s. per cwt. for fine quality on spot, and autumn shipments are worth about 8s. per cwt.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, firm: Scotch warrants closed at 47s. $8\frac{1}{2}$ d.; Middlesbrough, 38s. 9d. cash, and hematite, 49s. $1\frac{1}{2}$ d. Copper, firm: Chili bars, G. O. B.'s and G. M. B.'s, closed at £47. to £47. 5s. cash, and £47. 7s. 6d. to £47. 12s. 6d. three months. Tin, steady: Straits closed at £64. 17s. 6d. to

£65. 7s. 6d. cash, and £65. 5s. to £65. 15s. three months. Australian, £66. 2s. 6d.; English ingots, £68. Lead: Spanish, £11. 1s. English, £11. 2s. 6d. to £11. 5s.; Silesian spelter, ordinary, £15 to £15. 6s. 3d. Nickel, 1s. $1\frac{1}{2}$ d. Antimony, £31. 10s. Quickh first hands, £7. 5s.; second hands, £7. 3s. 6d. Copper shares, etc. Cape, $2\frac{1}{8}$ to $2\frac{1}{4}$; Copiapo, $2\frac{1}{2}$ to $2\frac{1}{4}$; Libiola, $3\frac{1}{4}$ to 4; M and Barry, $2\frac{1}{2}$ to 3; Rio Tinto, 18 to $18\frac{1}{2}$; Tharsis, $5\frac{1}{8}$ to $5\frac{1}{4}$.

GLASGOW, WEDNESDAY.—Market strong, with good business. Scotch done at 47s. $7\frac{1}{2}$ d., 47s. 6d., and 47s. 9d. cash, also at 47s. 1 47s. $8\frac{1}{2}$ d., and 47s. 11d. one month; closing with buyers at 47s. 8 cash, sellers ask 47s. 9d. Cleveland done at 38s. $9\frac{1}{2}$ d. and 39s. month, closing with buyers at 38s. 9d. cash, sellers ask 38s. 10d. Cam land hematite done at 49s. 1d. cash, also at 49s. and 49s. one month; closing with buyers at 49s. $1\frac{1}{2}$ d. cash, sellers 49s. $2\frac{1}{2}$ d. Middlesbrough hematite done at 46s. $8\frac{1}{2}$ d. one month closing with buyers at 46s. 7d. cash, sellers ask 46s. $8\frac{1}{2}$ d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY

OILS.—Palm oil is steady, but the sales are slow even at this time. There is very little olive offering on spot, and in consequence price steady, and the market firm. There is not much doing in lin Liverpool makes being quoted 22s. to 23s. per cwt. in export Cottonseed is steadily held for 17s. 6d. to 18s. per cwt. for Liverpool refined, the same prices applying to American. The market is quiet, however. Castor keeps firm, with good second Calcutta $2\frac{1}{2}$ d., and first pressure French $2\frac{1}{8}$ d. per lb. There is nothing in tallow, though the market is fairly steady. Resin is doing moderately in all grades. Prices are stationary. Spirits of turpentine continue easy, at 20s. 9d. per cwt. Petroleum is easier, at 6d. to 7s. for American, and $5\frac{1}{2}$ d. to 6d. per gallon for Russian refined.

COLOURS are steady, without alteration in price. Ochres: Oxfordshire, common, £10., medium, £12., best, Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Um Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red unchanged. Venetian red, £6. to £10. Cobalt: Prepared 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, Zinc oxide, £22. 10s. to £25.

LIVERPOOL MINERAL MARKET.

Our market this week is still improving, with every prospect of continuing. Manganese stocks are low, with no importations, and prices are advancing. Ground manganese: The demand is in excess of supplies, and prices remain firm at £6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore as before reports Bauxite steady, and prices therefore remain firm at 20s. per ton first quality, 16s. 9d. per ton for second quality, and 12s. per ton third quality, f.o.b., in cargoes. Chrome ore is in good demand, stocks are nil and for forward delivery prices are firm at 70s. per ton for 140% ore, and 110s. to 115s. per ton for prime 50% ore. Fluorine chalk: The demand for this is considerably in excess of the supply while stocks are at a minimum, arrivals are nil, and therefore prices very firm at 70s. to 75s., 85s. to 90s., and 100s. to 110s. per ton "Angel White" quality. Plumbago is in moderate request this week and prices remain firm at £6. to £8. 10s. per ton. Wolfram scheelite: These articles are steady at full prices. Arsenic steady with more inquiry, and prices firm at £16. to £16. 10s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY

The shale distilling works are seriously threatened with demand a large increase of wages on the part of the men, and this difficulty will reflect to a certain extent on the general products market of industry. One of the oil works is already idle, the men having come out, and others may follow, as the masters do not seem inclined to concede the advances demanded, although they might agree to a modified increase. Meanwhile the products market continues firm, unprovided consumers of burning oil are now much more in earnest about covering their requirements, for the approaching autumn Sulphate of ammonia has continued to improve very slightly, and advanced a further fraction although the call for the article is by no means lively. As the mineral oil companies are the largest producers of sulphate here, the threatened general stoppage of these works on to wages disputes, is no doubt affecting the market towards the end. Ordinary chemicals are for the most part still unchanged, but there are rumours of an approaching rise in alkali.

prices current are:—Soda crystals, 35s. to 36s. nett, Tyne; 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, 4. 10s. to £5. 5s. nett, Tyne; alum in lump, £5. 10s. nett, Tyne; caustic soda, white, 74° £9., 70/72° £7. 15s., 60/62° and cream 60/62° £6. 10s., all nett, Liverpool; bleaching 6. 5s. to £7., nett, Tyne; saltcake, 15s.; borax, English 20., and boracic acid, £30. nett, Glasgow; bicarbonate of wt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; te of potash, 4½d. nett, for Scotch and English deliveries (for ¾d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for English deliveries (for export, 3½d. nett, f.o.b. Glasgow); of potash, 4¾d. less 5%, Liverpool; nitrate of soda, 8s. to 9s.; sulphate of ammonia, £9. 7s. 6d. to £9. 8s. 9d. prompt, f.o.b. ammoniac, first and second white, £39. and £37. nett, any phate of copper, £16. 15s., less 5%, Liverpool; paraffin scale, 1d.; and soft, 1½d. to 2½d. per lb.; paraffin wax 120° semi-2½d. to 2¾d.; paraffin spirit (naphtha), 8d. per gallon; oil (burning), No. 1 6½d., and crystal 6¾d., at works, for buyers (English sales about 1d. lower); ditto (lubricating) 865°, 0 £4. 10s.; 885° £4. 15s. to £5., and 890/895° £5. to £6. Sugar imports at Greenock were 18,134 bags beet unrefined, beet refined; 163,301 mats cane unrefined, and 2,910 bags red.

TYNE CHEMICAL REPORT.

TUESDAY.

is a better demand in chemicals and soda crystals, and alkalies entirely been advanced in price. Caustic soda and bleaching remain unaltered. Business is improving, and large sales have been made for forward. To day's quotations are as under:—Sulphur, soft, £7. 5s. per ton, nett; hard, £7. 10s. per ton; caustic soda, 76/77°, £9. 10s. per ton, nett; do., 70°, £7. 15s. nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; do., 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ton; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 10s. nett; do., 52%, £5. per ton, nett; hyposulphite of 7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; 0° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. n., nett; soda crystals, casks, £2. 5s. per ton, eight; do., 2 cwt. bags, £2. 5s. per ton, nett weight; of potash, 5d. per lb., less 6%; pearl hardening, ton, nett; pure white sulphate of alumina, £4. 2s. 6d. nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, per ton, nett; carbonate of alumina, £28. 15s. per ton; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, s. per ton, nett.

South Durham salt is steady at 9s. to 9s. 6d. per ton, cwt.

LS.—Trade continues steady, and stiffer prices all round are. Steam coal collieries are in full work. Coke is steadier, re is more disposition to buy ahead. Best Northumbrian 8s. 10½d. to 9s. per ton; second qualities ditto, 8s. 3d. d. per ton; small steam, 3s. 6d. to 3s. 9d. per ton; gas s. 3d. to 6s. 9d. per ton; household coals, 10s. to 11s. 6d.; unscreened bunker coals, 6s. to 7s. per ton; coke, steady, to 14s. per ton.

ALL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

—The markets continue quiet, with prices easier, otherwise general business of the town continues good. The Hull and Railway traffic receipts for eight weeks have amounted to

£50,385, against the same time a year ago of £44,710, being an increase of £5,675. The Indian Linseed on passage to Hull consists of 20,000 qrs., shipped *via* Canal, against the same quantity last week, 127,000 last year, and 76,000 qrs. in 1893. Linseed oil quiet, spot 20s. 1½d.; forward last four months, 19s. 3d.; first four months 19s.; boiled and refined do. from £1. 10s. to £2. per ton extra. Cotton oil, crude, 14s. 3d. spot; 14s. 9d. and 14s. 7½d. November-April; refined 15s. 10½d. to 16s. spot; 16s. 3d. sellers November-April; casks 17s. 6d., and ordinary barrels 27s. 6d. per ton extra. Spirits of turpentine unchanged. In mineral pale oils the Americans are quoting an advance in prices of 10s. per ton. Tallow is advanced in price by about £1. per ton. Olive oil prices are becoming higher and market firmer. Cod oils unchanged. A little more business is being transacted in cod oils. Boiled siccative oil from £13. per ton. Liquid soap of good sale at £15. per ton. Pale wool oils from £13. 10s. per ton.

CAKES.—The market quiet on account of harvest operations. Linseed cakes, 95% pure, £6. 2s. 6d. per ton. Oil cakes, £5. 5s. Russians, £6. 2s. 6d. Cotton cakes: best makes, £3. 17s. 6d.; seconds, £3. 15s. Rape cakes unaltered.

PAINTS.—Business continues steady, without alteration in prices, which are: Oxide of iron, dry, from £6. per ton. Venetian red, dry, from £4. Yellow ochre, various prices according to origin. White and red leads unchanged, also oxide of zinc. Black, imperial yellow, yellow ochre, Venetian red, blue, and oxide of iron paints from £11. per ton. Paint remover from 25s. per cwt. Imperial black varnish, £5. 10s. per ton in barrels. Oak varnish from 5s. 6d. per gallon.

New Companies.

Fielding and Platt, Ltd. CAPITAL £50,000, in shares of £10. shares. This Company has been formed to acquire and carry on the business of Messrs. Fielding and Platt, at Atlas Iron Works, Gloucestershire, general engineers. The subscribers to the memorandum of association are: J. Platt, Somerset Villa, Gloucester, engineer; Jas. Fielding, 36, Weston-road, Gloucester, engineer; Jno. Fielding, Somerset Lawn, Gloucester, engineer; Mrs. J. Platt, Somerset Villa, Gloucester; Mrs. J. Fielding, 36, Weston-road, Gloucester; Mrs. J. Fielding, Somerset Lawn, Gloucester; F. J. Platt, 49, Park-road, Gloucester, engineer.

Scottish Oil and Chemical Company, Ltd.—CAPITAL £32,000., in shares (5,000 def.) of £1. each. This company has been formed to carry on the business of white lead manufacturers and makers of all kinds of paints and colours. The subscribers to the memorandum of association are:—J. Currie, 69, St. Vincent-street, Glasgow, cotton yarn merchant; J. Raeside, 6, Oakley-terrace, Glasgow, merchant; W. Ferguson, Ayton House, Dowan Hill, Glasgow, merchant; J. H. Connell, 69, St. Vincent-street, Glasgow, cashier; J. W. Napier, 14, Windsor Circus, Glasgow, gentleman; W. Brown, 93, Hope-street, Glasgow, solicitor; R. S. McNicol, 96, Buchanan-street, Glasgow, cotton yarn merchant.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

J. P. MILLER, J. B. MILLER, J. CRICHTON, and J. MILLER, under the style of John Miller and Co., manufacturing chemists, Aberdeen, so far as regards J. Miller.

G. F. MATTHEWS and B. LONSDALE, drysalts, oil and colour merchants, &c., Bristol, under the style of Henry Matthews and Co.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

BURGESS, THOMAS, Alsagar, Cheshire, manure agent.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending August 24th.

Acid—

24 pkgs. A. & M. Zimmermann
50 Philipps & Graves

Alum—

20 drs. Ryley & Co.

17 cks. Chilworth Gunpowder Co.

Alkali—

Canada, 302 c. Charles & Fox

Alum—

Belgium, 24 cks. R. W. Greeff & Co.

Aluminium—

France, £375 Major & Field

Aniline Salts—

Holland, 2 cks. Philipps & Graves

Anthracene—

Holland, 163 bgs. Burt, Boulton & Co.

Antimony—

Japan, 17 t. J. Swire & Sons
Singapore, 15 H. Lambert

Antimony Ore—

E. Indies, 104 t. H. Grey, jun
Australia, 11 Union Lighterage Co., Ltd.

A. Turkey, 55

Queensland, 1

French & Smith

H. Bath & Sons

Arachide Oil—

Germany, 10 brls.

Poth Hille & Co.

Arsenic—

Germany, 20 kgs.

Brandram Brs.

Portugal, 22 brls.

Dawson & Co.

Asbestos—

Italy, 4250 Baynam & Co.
Holland, 75 G. Rahn & Co.
France, 8 Girard Frs. & Co.
Germany, 24 Craven & Co.
Canada, 250 W. Byford
U. States, 35 S. Guiterman & Co.

Barium Sulphate—

Belgium, 25 cks. J. L. Lyon & Co.

Barytes—

Holland, 21 cks. H. Keller & Co.
" 22 bbls. W. Pope & Co.
Germany, 19 cks. P. Jantzen
Holland, 75 W. Harrison & Co.
Belgium, 51 Burrell & Co.
Holland, 23 J. L. Lyon & Co.
" 22 O'Hara & Hoar

Bone Meal—

E. Indies, 500 t. A. Hunter & Co.

Camphor—

Japan, 410 tubes Hale & Son
China, 788
Hong Kong, 447
" 93
Japan, 64
" 4
R. Warner & Co.

Caoutchouc—

Germany, 5 c. Clarke & Smith
Zanzibar, 50 L. & I. D. Jt. Co.
Singapore, 292 Huttenbach & Co.
E. Indies, 70 E. Davies & Co.
Zanzibar, 26 Arbutnot, Ewart & Co.

Carbon Black—

Germany, 45 cks. Steinhoff, Sons & Co.

Castor Oil—

E. Indies, 80 cks. R. G. Hall & Co.
Italy, 80 City. Conl. Wf. Co.
" 50 C. Windschugel & Co.
E. Indies, 290 Cayrer, Irvine & Co.
" 89 cks. A. B. Curtis & Co.
" 17 Ross & Deering
France, 18 J. Greig
Belgium, 64 bbls. Fuerst Bra.
" 20 Anderson, Weber & Smith

Caustic Potash—

France, 25 c. J. A. Reid

Chemicals (otherwise undescribed)

Germany, 1 ck. Hernu, Peron & Co.
" 1 Jensen & Nicholson
Belgium, 8 cks. T. Palmer
Germany, 27 86 pkgs. A. & M. Zimmermann
" 13 L. & I. D. Jt. Co.
Holland, 7 E. Merck
Germany, 7 21 pkgs. T. H. Lee
" 8 20 cbrys. 1 ck. Philipps & Graves

Copperas—

Germany, 12 cks. A. & M. Zimmermann

Cream of Tartar—

France, 10 cks. G. Ward & Sons
Germany, 2 Beresford & Co.
Portugal, 5 B. & F. Wf. Co.
Holland, 10 Kirkpatrick & Co.
France, 5 M. Aubby, Ld.
" 5 B. & F. Wf. Co.
" 4 C. Atkins & Nisbet
" 25 W. C. Bacon & Co.

Dyestuffs—

Cochineal
Canaries, 20 bgs. G. S. Bruce
" 10 W. M. Smith & Sons
" 26 W. Dutton & Co.
" 5 Sperling & Williams
Cutch
E. Indies, 114 bks. W. H. Hindley
Singapore, 579 J. Swire & Sons

Divi Divi

E. Indies, 144 bgs. L. & I. D. Jt. Co.
" 37 Culverwell, Brooks & Co.

Extracts

France, 10 cks. Union I. Co.
Denmark, 2 cks. 2 pkgs. D. Currie & Co.
" 2 cks. 2 pkgs. Sorensen & Co.
France, 24 L. J. Levinstein & Sons
Canada, 600 bbls. A. J. Humphrey
France, 984 cks. T. H. Lee

Gambler

Singapore, 240 bbls. Union L. Co.
" 2,216 R. & J. Henderson

China, 218 Hore & Scrivener
Singapore, 226 Ross & Deering
" 716 Beresford & Co.
" 456 bgs. S. Barrow & Bro., Ld.

Singapore, 1 pkg. J. Waters & Co.
" 1,361 bbls. W. Balchin
" 150 L. & N. W. Rly
" 1,358 bgs. G. Ward & Sons

Indigo
E. Indies, 13 cts. G. A. Witt
" 19 P. Macfadyen & Co.
" 24 W. J. Eales & Co.
" 19 Croysdale & Co.
" 70 L. & I. D. Jt. Co.
" 7 Laughland Machay & Co.
" 3 W. Brandt, Sons & Co.

Logwood
Dominica, 3 t. Churchill & Sim

Myrobisams
E. Indies, 3,402 bgs. Baxter & Hoare
" 1,444 H. A. Litchfield & Co.
" 667 L. & I. D. Jt. Co.

Sumac
Italy, 1,105 bgs. J. Kitchin, Ltd.
France, 100 Skilbeck Bros.

Tanner's Bark
Natal, 28 t. G. R. Haller
" 45 Flack, Chandler & Co.
" 52 Boutcher, Mortimore & Co.
" 80 A. & W. Nesbitt

Turmeric
E. Indies, 342 bgs. S. Figgis & Co.
" 341 H. A. Litchfield
" 225 J. P. Alpe & Co.
" 9,578 Marshall & French
E. Indies, 600 Leach & Co.

Valonia
A. Turkey, 348 t. A. & W. Nesbitt
" 150 Hicks, Nash, & Co.
" 10 Hoare, Wilson & Co.

Farina—
Holland, 50 pkgs. Morison,
Pollexfen & Co.
Germany, 100 E. & T. Pink
Holland, 50 bgs. Dunlop Bros. & Co.
Germany, 100 Seaward Bros.

Glucose—
U. States, 1,300 pkgs. 1,300 c. Fellows,
Morton, & Co.
" 450 450 c. L. Norman & Co.
" 699 699 R. G. Hall & Co.
" 750 750 A. Dixon
" 634 753 Ohlenschlager Bros.
" 1,000 1,000 E. Dixon
" 3,945 10,254 L. Suro & Co.
" 400 2,270 Bennett S. S. Co.
" 50 289 J. Keiller & Son, Ltd.
" 50 300 A. B. Curtis & Co.
" 250 1,515 Deering & Robottom
" 250 1,500 E. & T. Pink
" 580 500 P. Windmuller & Co.
" 4,000 4,000 Pearce, Pelly & Co.

Glue—
" £1,327

Infusorial Earth—
Holland, 46 Schenker & Co.

Iron Chloride—
Holland, 1 ck. G. Rahn & Co.

Lamp Black—
U. States, 300 pkgs. L. & I. D. Jt. Co.

Lead Acetate—
Germany, 11 cks. Beresford & Co.

Litharge—
Germany, 14 cks. Petri Bros.

Magnesium Carbonate—
Holland, 5 cks. Beresford & Co.

Manganese—
N. Zealand, 190 t. W. A. Sparrow & Co.

Manure—
Sydney, 200 t. A. Hunter & Co.

Methyl Alcohol—
Germany, cks. Stein Bros.
Belgium, 2 bbls. J. Kertel
U. States, 100

Mica—
E. Indies, £185 W. M. Smith & Sons
" 40 Blyth, Green & Co.

Ochre—

Germany, 1 cs. Philipps & Graves
Holland, 12 cks. 21 W. Harrison & Co.
France, 138 F. Claydon & Co.
Belgium, 34

Ozokerit—

Germany, 86 pkgs. L. N. Grunbaum & Son

Paraffin Wax—

U. States, 100 bbls. Worthington & Boler
" 2,143 American Oil Co.

Phosphate Rock—

Belgium, 195 Vokins & Co.
" 110 L. Anglo-Cont. Guano Wks.
" 155 West & Penrose
" 180 G. Allen
" 4 Cheml. Wks.

Pitch—

N. Russia, 100 bbls. Matthew and Luff
" 660 cks. Fellows, Morton, & Co.

Plumbago—

U. States, 400 bxs. Lunham & Moore
Ceylon, 223 bbls. G. Ward & Son
" 376 J. Thredder, Son & Co.

Potassium Carbonate—

France, 9 cks. Petri Bros.
Holland, 205 c. H. Johnson & Sons

Potassium Hydrate—

France, 5 cks. Spies Bros. & Co.

Potassium Oxalate—

Holland, 40 kgs. Beresford & Co.

Potassium Sulphate—

France, 230 bgs. C. J. Langmead

Pumice Stone—

Italy, 18 t. W. Shelcott
" 1 1/2 A. G. Souttar & Co.

Pyrites—

China, 1 t. Johnson, Matthey, & Co.
Spain, 1,100 Anderson & Co.
" 2,304 C. Tennant, Sons & Co.

Rosin—

U. States, 999 bbls. F. & S. Chiesman & Co.

Rosin Oil—

Germany, 15 bbls. C. B. Leighton

Saltpetre—

Germany, 158 cks. P. Hecker & Co.
E. Indies, 43 J. Hall & Son
Holland, 22 381 bgs. W. Balchin
" P. Hecker & Co.

Soda—

Holland, 200 c. Beresford & Co.
" 2,000 R. Waters

Starch—

Belgium, 20 cks. T. Ronaldson & Co.
Holland, 90 Philipps & Graves
Belgium, 40 Sawyer, Sons & Co.
Germany, 300 20 cks. Horne & Co.
Holland, 372 pkgs. Philipps & Graves
" 1,040 cks. Taylor Bros. Little & Johnston
Belgium, 310 120 bxs. T. H. Lee
" 1,060 F. Claydon & Co.
" 170 Arnati & Harrison
" 290 Leach & Co.
Holland, 714 E. & T. Pink
" 800 Vokins & Co.
France, 150 J. Barber & Co.
" T. H. Lee

Stearine—

Holland, 25 bgs. Robinson, Roberts & Co.
Belgium, 126 H. Hill & Sons
France, 50 Hicks, Nash & Co.

Talc—

France, £80 Blackwell, Sons & Co.
E. Indies, 647 Ross & Deering

Tallow and Stearine—

U. States, 25 cks. J. Kitchin, Ltd.

Tar—

N. Russia, 3,787 bbls. W. F. Malcolm & Co.

Tartaric Acid—

Holland, 2 cks. F. C. Devon & Co.
" 34 B. & F. Wf. Co.

Turpentine—

Russia, 53 bbls. F. & S. Chiesman

Ultramarine—

Holland, 9 cks. W. H. C.
Belgium, 5 W. Harrison & Co.
Germany, 9 cks. Soci.
" 16 pkgs. Harni
Holland, 1 ck. 4 cks. Hernu, Peron & Co.
" 1 ck. G. Rahn

Varnish—

U. States, 2 pkgs. Wilkinson, wood

White Lead—

Germany, 17 cks. Randa
Belgium, 10 bbls. Lyon
" 94 F. Clayton
Germany, 46 M. Ashb
Belgium, 15 Burrell

Wolfram Ore—

Queensland, 11 t. H. Bath

Wood Pulp—

Holland, 80 bbls. Henderson & Co.
Sweden, 24
" 60 Millwall
Norway, 500 Tough & Hen
" 476 C. S.
" 20 t. Joh
" 100

Sweden, 2,448 E. J. & W. G.
Norway, 540
Holland, 106
Belgium, 1,326 rolls W.
Sweden, 1,332 4,091 pkgs. T.
Canada, 4,917 E. J. & W. G.
Germany, 1,000 pkgs. W. Friele

Zinc Ashes—

N. Zealand, 2 t. J.

Zinc Oxide—

Holland, 75 bbls. M. Ashb
U. States, 100
Germany, 50
Holland, 50 pkgs. Pipes, D.
" 50 cks. Burrell

Zinc White—

Holland, 342 cks. Soudy
" 50 A. J. Fennan

LIVERPOOL

Week ending August 22nd

Acetic Acid—

Rotterdam, 25 bbls.

Albumen—

Naples, 27 bgs. 3 cks.

Asbestos—

Quebec, 1,000 bgs. Bell's Ad

Chemicals (otherwise undescribed)

Philadelphia, 26 cks. 18 cks.
Hamburg, 10

Colours—

Rotterdam, 1 bks.
Hamburg, 6 cks.
Ghent, 6 bbls. J. T. F.

Cottonseed Oil—

New York, 40 bbls.

Cream of Tartar—

Barcelona, 10 cks. 5 pkgs.

Dyestuffs—

Annatto
Bordeaux, 1 ck.
Argols
Oporto, 46 cks. German
of L.

Cochineal

Las Palmas, 27 bgs. Kerm

Divi Divi

Rio Hacha, 215 t. E. Bro

Extracts

Fiume, 300 bbls. Oak
New York, 10 5 bbs.
Bordeaux, 100 100 cks.
Baltimore, 100 Miller

Indigo

Barcelona, 10 cks. Harni

Myrobisams

Boston, 797 bgs. E. D. S

" 812

Chellia
Francisco, 900 bls.
15
mac
15 bls. 675 bgs.
meric
295 bgs.
lonia
174½ t. Barez Bros.
51 G. Essayan & Co.
54 3 728 bgs.
a
150 bgs.
te
100 N. W. Jackson
se
400 brls. 20 cks.
burg
550
more
197
e
40 bgs.
burg
4 cks. Co-op. W'sale
4 cks. Society, Ltd.
te
10 C. Moldache
e, 13 brls. 57 bgs. S. M. Duché
& Sons
orial Earth
burg, 255 bgs.
itene
erp, 1 cs. J. T. Fletcher
& Co.
anese
burg, 1 kg.
anese Ore
imbo, 1,000 t.
al White
e, 100 bgs.
ses
fleans, 583 brls.
n
66 cks. Co-op. W'sale
Society, Ltd.
York
104 brls. J. Lassey
n
30 cs. 32
Leech & Co.
fin Scale
York, 759 brls. 262 cs. Thompson
& Bedford
more
100
phate
t, qty. T. Vickars & Son
500 t.
phate Rock
loyal, S.C., 2,300 t. Brancker, Box-
well & Co.
ago
n, 100 bgs. G. Huntriss
h
m, 103 cks. 6 dms. Co-op.
W'sale Society, Ltd.
kirk
15 dms. Martin, Pors
& Co.
burg
63 cks.
h Salts
burg, 102 bgs.
es
va, 1,748 t. Matheson & Co.
on
1,641 brls.
etre
burg, 4 cks. 55 kgs.
fleans
4,667 brls.
es
145 cs. 2 pkgs. D. Rafi & Co.
andria
on, 281 brls.
York
300 cs.
burg
1 bx.
h
York, 300 bgs.
terdam
60 bxs.
verp
80 cs. J. T. Fletcher
& Co.
terdam
270
20 Morris & Jones
burg
150
it
20 J. T. Fletcher
& Co.
ine
York, 25 bds.
verp
6 cks. 25 bgs.
delphia
225 tcs. M. Pincoffs
ur Ore
va, 1,454 t. Matheson & Co.
a
300 bgs. G. Huntriss

Tallow
River Plate, 40 pps. Hugh Brown
369 131 hf.-pps.
Tartar
Bordeaux, 10 cks.
Tartaric Acid
Rotterdam, 8 cks.
Treacle
henburg, 25 cks. Braumuller,
Klombies
Philadelphia, 1,100 brls
Ultramarine
Rotterdam, 4 cks.
Hamburg, 1 cs.
Varnish
Baltimore, 3 cs. 8 brls. Pinchin,
Johnson & Co.
Rotterdam, 2 cks.
Waste Salt
Hamburg, 204 bgs.
White Lead
Rotterdam, 19 cks.
Antwerp, 12 bxs.
Rotterdam, 50 cks. W. R. Taylor
& Co.
Wood Pulp
Rotterdam, 102 bls.
Sannesund, 551 t. Kellner, Parting-
on & Co.
Zinc Oxide
New York, 180 brls.
Rotterdam, 100 cks.
Antwerp, 60
Zinc White
Rotterdam, 125 cks.

MANCHESTER.

Week ending August 24th.

Barytes
Rotterdam, 387 bgs.
Caustic Potash
Treport, 17 cks. 21 dms. Arnati &
Harrison
Colours
Hamburg, 39 cks. 6 cs.
Rotterdam, 55 8
Treport, 6 6 Arnati
& Harrison
Cream of Tartar
Rotterdam, 10 cks.
Dyestuffs
Extracts
Hamburg, 15 cks.
Rotterdam, 6
Treport, 30 Arnati &
Harrison
Logwood
Jamaica, 534 t.
Glue
Hamburg, 7 cks. 10 bskts
Treport, 10 bls. Arnati &
Harrison
Lead Acetate
Hamburg, 25 cks.
Magnesium Sulphate
Hamburg, 500 bgs.
Mineral White
Fiume, 100 bgs.
Nitrate
Rotterdam, 12 cks.
Potash
Hamburg, 19 cks.
Antwerp, 8 brls.
Sodium Acetate
Treport, 14 cks. Arnati &
Harrison
Starch
Hamburg, 840 cs.
Antwerp, 190
Fiume, 200 bgs.
Stearine
Antwerp, 6 bgs.
Tin Oxalate
Rotterdam, 12 brls.
Ultramarine
Rotterdam, 5 cs.
Waste Salt
Hamburg, qty.
Wood Pulp
Uleaborg, 591 cubic fthms. (Th o
Borrow) Killner Partington
Paper Pulp Co., Ltd.
Hamburg, 100 bls.
Fredrikshald, 7,500
Skein, 4,291
Zinc Oxide
Rotterdam, 25 cks.

HULL.

Week ending August 24th.

Acetic Acid
Rotterdam, 10 balloons W. & C. L.
Ringrose
20 Hutchinson & Son
Albumen
Hamburg, 5 cks. Wilson, Sons,
& Co., Ltd.
Ammonia
Rotterdam, 1 ck. 2 brls. Hutchin-
son & Son
Asbestos
Rotterdam, 1 pkge. W. & C. L.
Ringrose
Barytes
Antwerp, 184 ks. Bailey &
Leatham
Bremen, 100 bgs. G. Holmes
& Co.
Rotterdam, 10
73 Hutchinson
& Son
Camphor
Hamburg, 2 cs. Wilson, Sons,
& Co., Ltd.
Chemicals (otherwise undescribed)
Gothenburg, 43 cks. Wilson, Sons,
& Co., Ltd.
Stettin, 28 brls.
Bremen, 11 pkgs. Veltmann
& Co.
Danzig, 26 W. & C. L.
Ringrose
Hamburg, 19 pks. Wilson, Sons,
& Co., Ltd.
Dunkirk, 17 cks.
Antwerp, 25
49
Cod Oil
Bergen, 34 brls. Wilson, Sons,
& Co., Ltd.
Colours
Hamburg, 3 cks. Blundell,
Spence, & Co.
Antwerp, 8 pks. Wilson, Sons,
& Co., Ltd.
Rotterdam, 14 W. & C. L.
Ringrose
1 brl. 8 cks. 34 pkgs.
Hutchinson & Son
Cryolite
Copenhagen, 3 cks.
Dextrine
Stettin, 100 bgs. Wilson,
Sons, & Co., Ltd.
Dyestuffs
Alizarine
Rotterdam, 1 ck. W. & C. L.
Ringrose
98 brls. 9 pks. Hutchinson & Son
Indigo
Hamburg, 2 cs. Wilson, Sons,
& Co., Ltd.
Madder
Rotterdam, 1 ck. J. Pyefinch
& Co.
Hutchinson & Son
Farina
Stettin, 50 bgs.
Ghent, 122 cs. 142 pks. Wilson,
Sons, & Co., Ltd.
Harlingen, 725 bgs.
Gelstine
Antwerp, 5 cks. Wilson, Sons,
& Co., Ltd.
Glucose
Rotterdam, 40 bgs. Hutchinson
& Son
Stettin, 200 10 cks.
Glue
Bergen, 5 brls. Wilson,
Sons, & Co., Ltd.
Stettin, 36 bskts.
Rotterdam, 6 cks. W. & C. L.
Ringrose
Rouen, 21 50 cs. Rawson
& Robinson
Hamburg, 50 bgs.
Dunkirk, 15 Wilson,
Sons, & Co., Ltd.
Guano
Hamburg, 320 bgs. Wilson,
Sons, & Co., Ltd.
Lamp Black
Ghent, 150 brls. Wilson, Sons,
& Co., Ltd.

Limestone
Antwerp, 1 crt. Bailey &
Leatham
Naphthaline
Hamburg, 1 ck. Wilson,
ons, & Co., Ltd.
Ochre
Rouen, 30 cks.
Starch
Antwerp, 280 cs. Bailey &
Leatham
Rotterdam, 40 Hutchinson
& Son
Bremen, 2,899 Veltmann & Co.
Stearine
Riga, 79 cks.
Antwerp, 20 bgs. Wilson,
Sons, & Co., Ltd.
Tar
Stockholm, 150 brls. 10 cks. Wilson,
Sons, & Co., Ltd.
Tartaric Acid
Rotterdam, 7 cks. Hutchinson
& Son
Ultramarine
Amsterdam, 1 cs. J. Good & Sons
Rotterdam, 2 cks. W. & C. L.
Ringrose
4 Hutchinson & Son
Varnish
Hamburg, 1 cs. G. J. Glace
White Lead
Antwerp, 20 cks. Bailey &
Leatham
Amsterdam, 25 J. Good & Sons
Rotterdam, 38 W. & C. L.
Ringrose
Wood Pulp
Helsingfors, 80 bls. J. Good & Sons
65 Furley & Co.
Halmstad, 336
768
Zinc Ashes
Christiania, 39 cks. Wilson, Sons,
& Co., Ltd.
Zinc White
Rotterdam, 30 cks. W. &
C. L. Ringrose

GLASGOW.

Week ending August 29th.

Albumen
Hamburg, 5 cs.
Alkali
Rotterdam, 21 dms. J. Rankine
& Son
Aniline Colours
Amsterdam, 1 cs.
Barium Chloride
Rotterdam, 4 cks. J. Rankine
& Son
Barium Sulphate
Antwerp, 300 bgs.
Barytes
Rotterdam, 247 cks. 65 pkgs.
Castor Oil
Antwerp, 29 cks.
Chemicals (otherwise undescribed)
Rotterdam, 13 cs. J. Rankine
& Son
Colours
Rotterdam, 1 brl. 4 bxs. J. Rankine
& Son
Hamburg, 37 pkgs.
Antwerp, 25 cks. 6 cs.
3
Dyestuffs
Alizarine
Rotterdam, 22 cks. 5 brls. J. Rankine
& Son
108 pkgs.
Argols
Bordeaux, 47 cks.
Divi Divi
Pensacola, 204 bgs. Losenthal
& Railton
29 Widow, Duranty
& Son
Extracts
Antwerp, 4 cks.
Fustic
Pensacola, 232 logs Leitch, Harrison
& Forwood
826

Glucose — Boston, 200 brls. Waddell & Bryson	Treacle — Boston, 550 brls.	Wilmington, 4,200 brls. Richardson Brs.	Logwood — Hamburg, 156 t.
Guano — Christiania, 1,620 bgs.	Varnish — New York, 37 brls.	Saltpetre — Hamburg, 16 cks. Tyne S. S. Co.	Dyestuffs (otherwise undescr.) Rotterdam, 173 cks. 17 cs.
Paraffin Scale — New York, 243 brls.	Waste Salt — Hamburg, 320 t. 379 cks. 454 bgs.	Saltpetre Salt — Hamburg, 100 t. Clephans & Wiencke	Farina — Hamburg, 500 bgs.
Phosphate Rock — Bona, 1,050 t.	White Lead — Antwerp, 30 cks. J. Rankine & Son	Soap — Rotterdam, 2 cs. Tyne S. S. Co.	Glucose — Hamburg, 20 cks.
Pitch — Archangel, 300 brls. M'Lean, Todd & Co.	Wood Pulp — Antwerp, 14 pkgs.	Starch — Rotterdam, 170 cs. Tyne S. S. Co.	Potash — Hamburg, 10 cks.
Potash — Rotterdam, 21 cks. J. Rankine & Son	Zinc Oxide — New York, 100 brls.	Stearine — New York, 25 hds. Furness, Withy, & Co.	Hamburg, 17 dms.
Potassium Prussiate — Antwerp, 10 cks.	Zinc White — Rotterdam, 50 cks. J. Rankine & Son	Tartaric Acid — Rotterdam, 4 cks. Tyne S. S. Co.	Calais, 4
Rosin — New York, 1,000 brls.		Turpentine — Wilmington, 220 brls. Richardson Brs.	Soap — Boulogne, 2 cks.
Saltpetre — Calcutta, 448 bgs.			Sodium Silicate — Rotterdam, 1 ck.
Starch — Antwerp, 50 cs.			Waste Salt — Hamburg, 274 t. 255 cks.
Stearine — New York, 200 bgs.			
Tar — Archangel, 2,040 brls. M'Lean, Todd & Co.			
Tartar — Bordeaux, 10 cks.			

TYNE.

Week ending August 24th.

Alum — Rotterdam, 100 bgs. Tyne S. S. Co.	Aluminium — Antwerp, 1 cs. Tyne S. S. Co.	Colours — Rotterdam, 1 bx. Tyne S. S. Co.	Glucose — New York, 100 brls. Furness, Withy, & Co.
Kieselguhr — Bergen, 111 bgs.	Phosphoric Acid — Hamburg, 1 cs. Tyne S. S. Co.	Rosin — New York, 250 brls. Furness, Withy, & Co.	

GOOLE.

Week ending August 21st.

Acetic Acid — Rotterdam, 4 cks.	Aluminium — Dunkirk, 5 cs.	Aniline Dyes — Hamburg, 33 cks.	Colours — Ghent, 2 cks. 1 cs.
Dextrine — Hamburg, 100 bgs.	Dyestuffs — Alizarine, Rotterdam, 33 cks.		

GRIMSBY.

Week ending August 24th.

Albumen — Hamburg, 5 cs.	Caoutchouc — Rotterdam, 1 cs.	Chemicals (otherwise undescr.) Hamburg, 3 cks. 9 cs.	Colours — Hamburg, 6 cks. 3 cs. 3 pkgs.
Farina — Hamburg, 21 bgs.			

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending August 28th.

Acetic Acid — Lisbon, 1 t. 5 c. £15	Chemicals (otherwise undescr.)— Wellington, 4 kgs. £21	Rio de Janeiro , 48 30	Wellington , 26
Acids — Bombay, 1 17	Christiania , 1 t. 3 c. 60	Genoa , 11 32	Cape Town , 220 drs. 45 pkgs.
Alkali — Alleppey, 4 cs. £10	Brisbane , 10 cks. 35	Montreal , 7 pkgs. 21	Adelaide , 20 cks.
Alum — Charente, 6 c. £5	Bombay , 2 5 cs. 42	Dusseldorf , 40 286	Rio de Janeiro , 5 c.
Ammonium Carbonate — Cape Town, 2 t. 14 c. £15	Dunkirk , 4 t. 3 54	Grososote , 23,500 galls. £123	Melbourne , 50 kgs.
Ammonium Chloride — B. Ayres, 1 12 40	Hamburg , 5 19 71	Grososote Salts , 45	Guano — Morlaix, 100 t.
Ammonium Sulphate — Palermo, 10 t. £100	Copenhagen , 1 2 48	Naphtha , 414 bgs. £275	Manure — Durban, 25 t. 10 c.
Anhydrous Ammonia — Cape Town, 3 cs. £25	Penang , 6 cs. 19	Naphthaline , 8 cs. 10	Jamaica , 3 11
Arsenic — Adelaide, 1 t. £18	E. London , 20 kgs. 10 cks. 17	Paraffin Wax , 6 cks. £46	Montreal , 12 8
Barium Chlorate — New York, 10 c. £46	Melbourne , 30 175	Pitch , 5 cs. £17	Brisbane , 12 8
Barium Nitrate — New York, 2 t. £37	Citric Acid — Lisbon, 1 t. £119	Capetown , 310 brls. 2,138 bgs. £541	Lisbon , 4 2
Bleaching Powder — Rio de Janeiro, 13 c. £20	Brisbane , 2 cs. 14	Boston , 75 45	Sables d'Olonne , 92 5
Boracic Acid — Melbourne, 2 t. £75	Libau , 22 22	Calcutta , 31 45	Genoa , 100
Borax — Auckland, 8 cks. £20	Hamburg , 5 4 cks. 155	Hong Kong , 1 300 t. £421	Treport , 124 8
Carbon Bisulphide — Philadelphia, 4 t. 18 c. £77	Sydney , 1 t. 10 179	Salonica , 50 24	Nitric Acid — Jersey, 24 crbys.
Carbonic Acid Gas — Jersey, 23 tubes £64	Adelaide , 3 18	Sydney , 20 cs. 7	Bombay , 18 c.
Caustic Soda — Dunedin, 10 t. £95	Christchurch , 2 12	Treport , 12 45	Oxalic Acid — Melbourne, 1 t. 6 c.
	Genoa , 1 3 130	S. Nazaire , 800 1,600	Phosphorus — Wellington, 2 cs.
	Cologne , 1 2 13	Tar , 400 drs. £72	Potash — Treport, 5 t. 4 c.
	Christania , 1 7	Sydney , 100 18	Dunkirk , 5 3
	Calcutta , 3 24	Danzig , 250 brls. 125	Potash Crystals — Brussels, 4 cs.
		Selzatec , 562½ 165	Toronto , 4
		Baltimore , 54 40	
		Tar Oil , 250 cks. £156	
		Hamburg , 31 103	
		Toluol , 31 103	
		Boulogne , 31 103	
		Coal Products (otherwise undescr.)— Sydney, 200 drs. £39	
		New York , 500 brls. 188	
		Newport News , 750 281	
		Copper Sulphate — Launceston, 2 t. £34	
		Paris , 15 2 c. 228	
		Cream of Tartar — Bundaberg, 10 c. £35	
		Adelaide , 1 t. 10 113	
		Melbourne , 2 5 170	
		Sydney , 15 55	
		Natal , 10 38	
		Launceston , 5 19	
		Disinfectants — Hamburg, 25 cks. £125	
		Sydney , 10 cs. 52	
		Natal , 33 pkgs. 40 1	
		Brisbane , 12 31	

Ip— 25 cs. £38 on, 100 250 on, 100 1 t. 7 c. 100 on, 101 11 208 150 drs. 44 300 825 25 38 50 75 225 488 100 33 8 942 100 150 30 cks. 350 drs. 282	Ammonium Sulphate— Santos, 6 t. 10 c. £63 Las Palmas, 29 17 290 Gutierrez, 10 9 3 q. 105 Rouen, 30 270 Valencia, 51 1 2 511 Antimony— Piræus, 11 c. 1 q. £56 Arsenic— B. Ayres, 5 t. 7 c. £90 Asbestos— Vera Cruz, 4 cs. Barium Chlorate— Genoa, 5 c. £20 Boiler Composition— New York, 4 dms. Oporto, 10 cks. Bisulphite of Lime— Rangoon, 4 t. 10 c. £30 Bleaching Powder— Baltimore, 45 cks. Bombay, 20 dms. Boston, 530 Lisbon, 26 60 brls. Naples, 16 Newport News, 128 New York, 259 55 65 bxs. Oporto, 35 100 dms. Pasages, 15 Riga, 54 Rouen, 70 St. Petersburg, 51 Seville, 27 Vera Cruz, 88 pkgs. Boracic Acid— Montreal, 15 c. 2 q. £24 Adelaide, 10 16 Borax— Barcelona, 3 t. 2 c. £62 Bremen, 6 2 q. 7 Brisbane, 1 21 Antwerp, 22 3 467 Montreal, 6 7 1 123 Toronto, 2 4 2 46 Stockholm, 1 2 1 22 Hamburg, 2 6 1 46 Adelaide, 10 10 Rotterdam, 17 4 335 Melbourne, 2 5 90 Calcium— Sydney, 15 t. 16 c. £36 M. Video, 5 12 13 Odessa, 9 18 24 Calcium Chloride— St. Petersburg, 6 t. 1 c. £13 Camphor— Belize, 3 cs. Caoutchouc— New York, 1 cs. Carbolic Acid— Baltimore, 17 t. 2 c. 3 q. £736 Hamburg, 10 8 539 Rotterdam, 11 149 Carbonate of Lime— Montreal, 101 t. 1 c. £75 Castor Oil— Adjua, 1 cs. C. C. Castle, 10 Caustic Potash— Antwerp, 5 t. 4 c. £170 New York, 2 10 86 Melbourne, 1 10 36 Sydney, 1 10 42 Caustic Soda— Alexandria, 16 dms. Alicante, 72 Amsterdam, 4 Ancona, 22 Antwerp, 26 brls. Baltimore, 100 Barcelona, 698 60 Barranquilla, 20 Bilbao, 50 Boston, 75 55 11 pkgs. Brisbane, 3 Callao, 12 Cartagena, Sp., 18 12 Corinto, 10 E. London, 10 Fiume, 35 Galatz, 200 Genoa, 249 Hamburg, 54 Havana, 112 Havre, 18 Hiogo, 175 Hong Kong, 10 Huelva, 15 Konigsberg, 18 La Guayra, 12 Libau, 70 Lisbon, 29	Malaga, 65 10 Maracaibo, 10 Maranham, 6 Marseilles, 25 Melbourne, 44 54 Messina, 55 M. Video, 87 Montreal, 50 Naples, 180 Newport News, 1,100 New York, 734 100 25 bxs. Odessa, 263 20 kgs Oporto, 60 Palermo, 15 Patras, 2 Philadelphia, 500 Puerto Cabello, 8 Rotterdam, 103 5 cks. Rouen, 18 St. Petersburg, 60 Saltillo, 40 San Francisco, 38 San Jose de Guatemala, 72 dms. San Sebastian, 50 dms. 53 cks. Santa Catherina, 20 15 cs. Savanna, 20 66 pkgs. Seville, 120 Stettin, 48 Stockholm, 10 23 Sydney, 145 40 bxs. 19 Tampico, 193 Trieste, 30 Valparaiso, 110 Varna, 15 Venice, 100 Vera Cruz, 40 Vigo, 4 Chemicals (otherwise undescribed) Calcutta, 3 t. 15 c. £142 Bombay, 6 15 256 Maranham, 10 10 2 q. 8 Philadelphia, 13 1 417 New York, 13 7 427 Boston, 3 2 2 234 Hamburg, 4 7 Stockholm, 14 25 Piræus, 5 9 Gothenburg, 5 10 Larnaca, 4 7 Alexandria, 1 12 59 Constantinople, 1 16 brls. 105 China Clay— Boston, 2,796 cks. 200 bgs. Lisbon, 25 t. Montreal, 10 New York, 100 Vera Cruz, 36 Chloroform— Tampico, 1 cs. Chromic Acid— Havre, 2 c. £6 Citrochloric Acid— Lisbon, 7 c. 1 q. £14 Coal Products— Creosote Salts Antwerp, 138 t. £150 Pitch Antwerp, 31 t. Marseilles, 491 Tar Galatz, 50 brls. Coal Tar Products (otherwise undescribed) Boston, 4 cs. 8 kgs. New York, 31 cks. Copper Sulphate— Nantes, 5 t. 11 c. £75 Barcelona, 10 4 2 q. 170 Bari, 4 64 Palermo, 1 16 Valparaiso, 5 80 Bordeaux, 27 380 Santander, 2 8 30 Gothenburg, 2 6 1 33 M. Video, 10 16 2 174 Rouen, 14 12 2 219 Paris, 5 6 2 82 Disinfectants— Rangoon, 2 c. £12 Flux Skimmings— Bordeaux, 30 cks. Gelatine— Bombay, 1 cs. Glue— New York, 58 cks. 10 bgs. Guano— Barcelona, 10 t. £36 Gypsum— New York, 36 t. 9 c. £118 Iron Oxide— Genoa, 6 t. 3 c. £38 Montreal, 12 16 77	Lead Acetate— Calcutta, 2 t. 3 c. £66 Lime— Accra, 4 t. 19 c. £5 Magnesium Sulphate— Bombay, 24 bgs. Guayaquil, 15 cs. Manganese— Philadelphia, 3 cks. Manure— Las Palmas, 10 t. £36 Bordeaux, 7 43 Havre, 250 4 c. 1,350 Metallic Sodium— Hamburg, 1 t. 2 c. £195 Muriatic Acid— Guayaquil, 1 c. £1 Nitric Acid— Guayaquil, 1 c. £3 Ochre— B. Ayres, 100 cks. E. London, 150 brls. Oxalic Acid— Genoa, 2 t. £73 Syra, 6 c. 2 q. 10 Paint— Acajutla, 15 cs. Antwerp, 11 kgs. Beyrou, 50 Bremerhaven, 12 6 cks. B. Ayres, 21 dms. Cape Town, 40 Curacao, 10 brls. Havana, 6 Lagos, 40 60 79 Malta, 15 cs. 8 M. Video, 15 cs. 8 Montreal, 10 72 3 16 pkgs. N. York, 3 brls. 55 dms. Oporto, 5 15 Para, 14 tcs. Ponce, 150 kgs. 5 St. John's, Nfld., 8 2 Sagua la Grande, 4 Salonica, 1 San Juan, 25 123 Sapeli, 10 Sherbro, 170 Smyrna, 340 Talcabano, 40 brls. Tampico, 4 Vera Cruz, 1 cs. 36 Painters' Colours— Algoa Bay, 50 dms. Belize, 1 ck. 310 kgs. B. Ayres, 2 tcs. 68 brls. 235 150 cs. Calcutta, 20 E. London, 15 pkgs. Galatz, 75 Hamburg, 100 bgs. Havana, 2 cks. 1 Lisbon, 50 Madras, 6 Manaos, 1 brl. Mollendo, 1 brl. Montreal, 37 13 brls. New York, 31 100 Old Calabar, 13 dms. Opebo, 5 Rangoon, 100 bgs. Rosario, 34 Seville, 1 cs. Paraffin Wax— Bari, 2 bgs. Rio de Janeiro, 4 cs. Phosphorus— Shanghai, 1 t. 5 c. £300 Pernambuco, 2 28 Potassium Bichromate— Antwerp, 20 t. 4 c. £803 Cadix, 7 16 Piræus, 5 12 Constantinople, 5 2 216 Potassium Carbonate— New York, 17 t. 15 c. £322 Potassium Chlorate— Melbourne, 10 c. £24 Oporto, 5 10 Naples, 1 t. 5 48 Lisbon, 6 221 San Sebastian, 1 50 Konigsberg, 15 25 Philadelphia, 5 208 St. Petersburg, 22 850 Christiania, 10 21 Shanghai, 1 10 Sydney, 8
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LIVERPOOL.

ending August 28th.

Libau, 2 10 149	Manaos, 150	Brishane, 220 9	Aniline Salts—
New York, 18 15 758	Menado, 1,000	B. Ayres, 25	Hamburg, 10 pns.
Rotterdam, 3 14 165	Montreal, 50 18 cks.	Calcutta, 1,000	St. Petersburg, 13
Stockholm, 10 480	New York, 96 1,500	Christiania, 40	Caoutchouc—
Genoa, 3 5 160	Old Calabar, 500	Genoa, 110 14	St. Petersburg, 4 bls.
Odessa, 3 136	Philadelphia, 1500	Havre, 83 4	Carbolic Acid—
Hio, 7 10 398	Piraeus, 3 2 bls.	Hong Kong, 10	Treport, 15 cks. 208 dms. 208 lbs.
Hong Kong, 1 10 58	Pt. Elizabeth, 1,600 90	Libau, 150	Chemicals (otherwise underwritten)
Potassium Cyanide—	Pt. Maria, W. I., 100	Malta, 14	Hamburg, 1 ck.
Curacao, 2 c. 2 q. £80	Pt. Natal, 800	M. Video, 50 brls.	Mersyne, 2
Potassium Prussiate—	Quebec, 200 1	Montreal, 300	Creosote Salt—
Montreal, 3 c. £11	Rangoon, 200	New York, 130 60	Treport, 63 cks.
Santander, 1 l. 72	Rotterdam, 525	Philadelphia, 50	Dyestuffs (otherwise underwritten)
Salt—	St. John's, 31	Rangoon, 25	Rio de Janeiro, 3 cs. 20 bgs. 1 bl.
Accra, 6 t. 5 c.	St. Thomas, 250	Rio de Janeiro, 44	Linseed Oil—
Adelaide, 70	Sa onica, 30	Rosario, 250	Alexandria, 20 brls.
Antwerp, 230	Shanghai, 3,870	Rotterdam, 78	Painters' Colours—
Baltimore, 515	Sierra Leone, 100	Rouen, 10	Jaffa, 2 cks.
Belize, 8 10	Singapore, 2,22	Seville, 50 5	Pitch—
Boston, 600	Sydney, 150	Singapore, 29	Cette, 1,175 t.
Brisbane, 5	Sydney, 11	Smyrna, 52	Salt—
Calcutta, 6,600	Teneriffe, 455	Sydney, 630	Treport, 20 bgs.
C. C. Castle, 73 16	Trinidad, 300	Trieste, 50	Sodium Bicarbonate—
Chittagong, 4,131	Venice, 10 40 dms.	Valparaiso, 25	Treport, 74 kgs.
Copenhagen, 380	Vera Cruz, 500	Venice, 50	Tallow—
Coquimbo, 2 2	Winnebah, 50	Vera Cruz, 6	Rotterdam, 28 cks.
Galveston, 200	Soda—	Yokohama, 2,000	Tar Oil—
Gd. Bassam, 12 10	Boston, 15 cks.	Sodium Bichromate—	Hamburg, 33 dms.
Groningen, 190	Montreal, 7	Rouen, 14 cks.	Treport, 36 25 cks. 54 lbs.
Helsingborg, 647	Soda Alkali—	Sodium Carbonate—	Tar Salts—
Iceland, 165	Barcelona, 110 brls.	Rotterdam, 5 cks. 47 dms.	Treport, 56
Lagos, 280	Bilbao, 35	Sodium Chlorate—	
Limassol, 1 5	Cartagena, Sp., 15	Hamburg, 24 kgs.	HULL.
Lisbon, 10 6	Leghorn, 95	Sodium Silicate—	<i>Week ending August 24th.</i>
Malta, 3 16	Lisbon, 60	Adelaide, 107 cks.	Alkali—
Manaos, 14 5	Messina, 26	Barcelona, 56	Bergen, 2 cks.
Melbourne, 70	Odessa, 50	Bombay, 5 brls.	Naples, 6 12 dms.
Montreal, 984 13	Smyrna, 50	Brishane, 7	St. Petersburg, 9
N. Orleans, 100	Sydney, 30	Calcutta, 20	Ammonium Sulphate—
Newport News, 400	Soda Ash—	Corinto, 13	Dunkirk, 48 bgs.
Nykjobing, 650	Amsterdam, 3,040 bgs.	Malta, 12	Marseilles, 304
Old Calabar, 70 8	Antwerp, 13 cks. 300	Melbourne, 17 5 dms.	Odessa, 2
Opobo, 91	Baltimore, 86 460	Montreal, 17	St. Petersburg, 100
Para, 330	Barcelona, 20 100	Newcastle, 14	Genoa, 410
Pictou, 354	Bari, 100	Oporto, 16	Bleaching Powder—
Quebec, 100	Boston, 233 tcs. 295 1,920	Seville, 50	Bombay, 20 dms.
Rio de Janeiro, 2 5 50 cs. 100 brls.	B. Ayres, 50 75 brls.	Shanghai, 34	Genoa, 54 cks.
Rosario, 135	Calcutta, 50 30	Sydney, 33	Stettin, 52
Rotterdam, 151	Cartagena, Sp., 100	Tripoli, 8	Caustic Soda—
Stockholm, 151 11	Constantinople, 50	Sodium Sulphate—	Stettin, 68 dms.
Sydney, 120	Copenhagen, 50	Montreal, 16 cks.	Bombay, 10
Valparaiso, 7 15	Genoa, 100 bxs.	Sodium Tartrate—	Chemicals (otherwise underwritten)
Vancouver, 80	Ghent, 10 100	Montreal, 1 ck.	Amsterdam, 2 cks.
Victoria, V.C., 122 11	Gothenburg, 12 100	Spent Oxide—	Bombay, 1,302 223 pns.
Wyburg, 898	Kolmar, 69 25	Antwerp, 174 t. £300	Bergen, 1
Salt Cake—	Lagos, 25	Strontia—	Copenhagen, 11
Philadelphia, 600 t. £506	Laerd, 38	Hamburg, 150 t. 12 c. £1,254	Christiania, 5 4 cs. 28
Brisbane, 140 2 c. 183	Lisbon, 15	Cape Town, 75 t. £57	Constantinople, 250
Antwerp, 50 2 107	Melbourne, 40 800 kgs. 50 brls.	Boston, 250 7 c. 814	Genoa, 19
Saltpetre—	M. Video, 440 68	Sulphuric Acid—	Gothenburg, 17 152 5
Ceara, 19 c. 3 q. £24	Newcastle, 130	Guayaquil, 1 c. £1	Hamburg, 11
Santos, 2 t. 18 1 65	New York, 417 2,244 149 tcs.	Superphosphate—	Kurrachoe, 12
Barcelona, 2 10 56	Oporto, 10 10 brls.	Rostock, 599 t. 15 c. £1,470	Leghorn, 11
Sheep Dip—	Philadelphia, 50 1,820 80 dms.	Treacle—	Marseilles, 1
Punta Arenas, 5 t. 12 c. 2 q. £300	194 tcs.	Amsterdam, 10 cks.	Rouen, 20 bgs.
Rosario, 3 14 85	Puerto Cabello, 11 brls.	Antwerp, 12 10 brls. 6 hl.-pns.	Rotterdam, 72 66 8
B. Ayres, 7 8 2 175	Rio de Janeiro, 300	Christiania, 70 105	St. Petersburg, 22 1
Sydney, 8 16 337	San Francisco, 92 125	Gothenburg, 115 25	China Clay—
Melbourne, 100 dms. 10 brls. 230	Smyrna, 10 30	Hamburg, 15 tcs. 300	Bremen, 4 cks.
Slag—	Valparaiso, 5 50 kgs.	Norrkoping, 300	Cottonseed Oil—
Venice, 1,595 t.	Soda Crystals—	Stockholm, 50	Christiansand, 33 c.
Soap—	Alexandria, 20 brls.	Sundsvall, 300	Gothenburg, 100
Accra, 48 bxs. 20 cs.	Amapala, 50	Terneuzen, 8	Hamburg, 2,052
Algoa Bay, 1,537 105	Bost. 1, 616	Turpentine—	Rouen, 200
Amsterdam, 385	B. Ayres, 100 74 kgs.	Rangoon, 5 dms.	Rotterdam, 344
Bakana, 500	Calcutta, 20	Yarnish—	Stavanger, 40
Barbadoes, 1,170	Cape Town, 40 10	Antwerp, 4 brls.	Antwerp, 25
Bathurst, 20	Gibraltar, 25	Madras, 6 cs. 1 bx.	Stettin, 110
Bayin, 35	Kingston, Jam., 30 40	Mantanzas, 1	Dyestuffs (otherwise underwritten)
Belize, 100 7	Malta, 40 50 brls.	Montreal, 16 2 cks. 1 dm.	Christiania, 2 cks. 62 bgs.
Bombay, 250	N. Orleans, 140	White Lead—	Dunkirk, 2 20 dms.
Boston, 500	New York, 280	Algoa Bay, 120 dms.	Gothenburg, 1
B. Ayres, 1 250 bds.	Philadelphia, 794	Bah a, 1 t. 4 c.	Hamburg, 8
Calcutta, 500 2	Portland, Or., 200 brls.	Guatemala, 500 kgs.	Rotterdam, 7
Cape Labou, 43	Sourabaya, 60	Zinc Chloride—	St. Petersburg, 70
Cape Town, 2,946 50	Valparaiso, 200 50 bgs.	Bordeaux, 8 t. 10 c. £48	Stettin, 12 90
Constantinople, 45	Sodium Arsenate—	Brisbane, 7 3 q. 88	Glue—
Copenhagen, 143	Bombay, 12 cks.	Bombay, 12 10 195	Christiania, 20 bgs.
Demerara, 495	Sodium Bicarbonate—	MANCHESTER.	Drontheim, 70
Durban, 50	Adelaide, 100 kgs. 1 ck.	<i>Week ending August 28th.</i>	Hango, 3 cks.
E. London, 924 35	Antwerp, 14	Aniline Oil—	Linseed Oil—
Genoa, 220	Barcelona, 30	Rotterdam, 10 dms.	Bergen, 171 t.
Ghent, 39	Bombay, 60	St. Petersburg, 10	Copenhagen, 7
Gibraltar, 529 20	Boston, 50 60		Christiansund, 200
Gd. Canary, 250	Bourgas, 25 2		Christiania, 233
Halifax, 200	Bremerhaven, 15 2		
Iquitos, 450			
Kingston, Jam., 482 1			
Lagos, 180			
Lamaca, 2			
Leghorn, 10			
Lomas, 139			
Macassar, 500			
Malta, 65			

ple, 46
77
283
17
81
51
206
6

180 bgs.
White—
300 bgs.
50
50

13 dms.
18 cks.

Colours—
9 cs. 14 cks. 40 dms. 18 pks.

1
37 1 kg.
3
61
24

59 25 1 pkge.
21
154
4 6

2 8 101 pks.
1 10 dms.

urg, 22 160
197 cs. 31 kgs.

2
2
md, 1 cs. 58

1, 1 ck. 26 dms.
1, 1 cs. 11 201

42 1
5, 4 54

us—
64 cs.
25
4

59 t.
10 cks.
32 bgs.

en, 5 t.

en, 1 cs.

a, 2
i, 20

en, 120 cs.

osphate—
shaven, 1,000 t.

33 cks.
3
25

m, 4 cks.
1
8

en, 5
a, 1
rs, 74
10

10 cks.

ne—
rs, 10 cks.

6 cks. 1 cs. 14 dms.
2 75

ia, 2
m, 2
2
2 3
2 bxs.
2

sborg, 1

LASGOW.

ending August 29th.

a—
100 t. 16 c.
208 bgs

um Sulphate—
117 t. 18½ c.

re, £44

Oil—
£44

Caustic Soda—

B. Ayres, 9 t. 1 c. £74
Seville,
Canada, 10 3
Nantes, 31 6½

Chemicals (otherwise undescribed)

Nickerie, 18 cs.

Coal Products—

Carbolic Acid
Christiania, 10 brls.

Creosote Oil
U.S.A., £40
Amsterdam, 1 t. 1 c. 11
Christiania,

Naphtha
Antwerp, 46 cks. £76
Rouen,

Pitch
Bombay, £45
Gijon, 313

Amsterdam, 200 t.
Antwerp, 43
Norwegian, 57
Gothenburg, 230
U.S.A., 271 6 c. 469

Tar
Boston, £120
Calcutta, 261
Karachi, 25
Montreal, 40
U.S.A., 55
Danzig, 104 t. 3 c. 50
Canada, 219

Tar Oil
B. Ayres, £145
Danzig, 16 t. 10 c.

Tar Salts
Boston, 3 t. 15 c.

Copperas—
Bombay, 51 t. 11½ c

Dyestuffs—
Extracts
U.S.A., £325
Victoria (Australia), 109
Montreal, 38
Logwood
Oporto, £67
Montreal, 36

Dyestuffs (otherwise undescribed)
Lisbon, £64

Farina—
Calcutta, 5 t. 15 c.

Glucose—
U.S.A., £350

Glue—
Melbourne, £95

Lead Acetate—
Calcutta, £71

Linseed Oil—
Melbourne, 1 t. 11 c.
Hamilton, 14¼

Paint—
Adelaide, £86
Bombay, 2 t. 9¼ c.
Melbourne, 55
Rio de Janeiro, 40
Shanghai, 42

Painters' Colours—
Bombay, 6 t. 2 c. £80
B. Ayres, 373
Calcutta, 40
Montreal, 136
Singapore, 42
Hamilton, 23
Huelva, 23

Paraffin Wax—
Cape Town, £72 10s.
Antwerp, 29
Bordeaux, 69

Phosphate—
Nickerie, 300 bgs.

Potassium Bichromate—
Bombay, 6 t. 6¾ c.
Philadelphia, 27 13
Montreal, 18 19¼
Antwerp, 2 10¼
Lisbon, 9 8

Potassium Prussiate—
Rotterdam, £3
U.S.A., 8 t. 19¼ c.

Rosin—
Calcutta, £40

Soap—
Colombo, 1 t. 11 c.

Sodium Bichromate—
Montreal, 5 t. 8½ c.
Antwerp, 2 10
Lisbon, 1 5
Rouen, 10 9¾

Sodium Sulphate—

Sundsvall, £15
Starch—
Lisbon, £65

Sulphur—
Nickerie, 10 cks.

Sulphuric Acid—
Colombo, £93
Madras, 150
M. Video, 40
Nickerie, 20 chys.

Superphosphate—
Gothenburg, 100 t. 1¾ c.

Tallow—
San Sebastian, 51 t. 14 c.
Rotterdam, 4

Tartaric Acid—
Kimberley, £26

Treacle—
Christiania, 24 t. 19¼ c.
Norwegian, 101
Stockholm, 88
Gothenburg, £62

Ultramarine—
U.S.A., £36

White Lead—
Halifax, N.S., £61 10s.
Montreal, 111
Christiania, 3½ c. 20
Durban, 23
Huelva, 23

TYNE.

Week ending August 24th.

Alkali—
Amsterdam, 72 t. 12 c.
Aalborg, 30
Christiania, 2 2
Rotterdam, 1 10
St. Petersburg, 8 19
Riga, 11 7

Ammonia—
Gothenburg, 14 c.

Ammonium Chloride—
Barcelona, 3 t. 11 c.

Antimony—
New York, 37 t. 10 c.
Montreal, 2
Rotterdam, 1
St. Petersburg, 40

Arsenic—
Gothenburg, 18 c.

Barium—
Antwerp, 10 t. 3 c.

Barytes—
Hamburg, 100 t.
New York, 40
Copenhagen, 4 8 c.

Blanc Fixe—
Copenhagen, 4 t. 1 c.

Bleaching Powder—
Amsterdam, 52 t. 2 c.
Hamburg, 17 5
Antwerp, 19 17
Montreal, 13 7
Christiania, 3 11
Rotterdam, 28 13
Copenhagen, 35 7
Terneuzen, 30 1
St. Petersburg, 10 1
Riga, 103 1
Trondhjem, 10
Fredericia, 3 4
Gothenburg, 10 2

Borax—
Aarhus, 1 t. 4 c.

Caustic Soda—
Amsterdam, 24 t. 8 c.
Hamburg, 60 13
Veneseisk, 49 17
New York, 69 10
Antwerp, 9
Odense, 1 3
Barcelona, 95 2
Aarhus, 1 4
Rotterdam, 1 10
St. Petersburg, 17 8
Gothenburg, 4 18

Copperas—
Aarhus, 1 19 c

Litharge—
St. Petersburg, 2 t. 19 c.

Magnesia—
New York, 1 t. 2 c.
Montreal, 5
Genoa, 5 9
Malta, 400 lbs. 1
Hamburg, 1

Manganese—

New York, 103 t. 12 c.

Manure—
Leghorn, 50 t. 4 c.
Rostock, 290
Savona, 195
Riga, 97
Barcelona, 35

Paint—
Veneseisk, 2 c¹

Salt—
Veneseisk, 2 t. 12 c¹

Slag—
Rotterdam, 164 t.

Soda—
Amsterdam, 25 18 c.
Veneseisk, 5 12
Lisbon, 4
Aalborg, 3 15
Montreal, 7 12
Christiania, 7 13
Rotterdam, 35 7
St. Petersburg, 10 10
Riga, 11 7
Bergen, 12 8
Fredericia, 40
Gothenburg, 5
Malta, 63 2
Leghorn, 38 16

Soda Ash—
Christiania, 3 t. 19 c.
Bergen, 5
Gothenburg, 10 7

Sodium Hyposulphite—
Callao, 1 t. 15 c.
Montreal, 10 4

Sodium Sulphate—
Gothenburg, 250 t.

Sulphur—
Drammen, 150 t.
Gothenburg, 90
Christiania, 200

Tar—
Neumuhlen, 1 t.

White Lead—
Montreal, 57 t. 2 c.
Toronto, 38 1
Copenhagen, 1 2
Malta, 10

GOOLE.

Week ending August 21st

Alkali—
Dieppe, 1 ck.

Chemicals (otherwise undescribed)
Dieppe, 2 cs

Coal Products (otherwise undes.)—
Dieppe, 182 cks.

Colours—
Antwerp, 3 cs.
Dieppe, 2 cks.
Hamburg, 2
Port au Prince, 2

Pitch—
Antwerp, 64 t.

GRIMSBY.

Week ending August 24th.

Alkali—
Rotterdam, 1 ck.

Benzol—
Rotterdam, 171 cks. 11 dms.

Chemicals (otherwise undescribed)
Boulogne, 4 cks. 2 cs.

Coal Products (otherwise undes.)—
Boulogne, 27 cks. 2 cs. 62 tins
Ghent, 5
Rotterdam, 13

Colours—
Boulogne, 6 cs.
Dunkirk, 15 dms.
Ghent, 1 ck.
Hamburg, 3

Dyestuffs (otherwise undescribed)
Antwerp, 3 cks.
Hamburg, 2

Manure—
Boulogne, 23 bgs.

Pitch—
Antwerp, 189 t.

PRICES CURRENT.

WEDNESDAY, SEPT. 4TH,

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may

Acids:—		£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/-	9/-	
" Glacial	"	10/-		
Arsenic S.G., 2000°	"	0	15	0
Fluoric	per lb.	0	0	3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
" (Cylinder), 30° Tw.	"	0	3	0
Nitric 80° Tw.	per lb.	0	0	1 1/2
Nitrous	"	0	0	1 1/4
Oxalic	nett	0	0	3 1/4
Phosphoric, 1750°	"	0	1	1
Picric	"	0	0	10
Sulphuric (fuming 50 %)	per ton	15	10	0
" (monohydrate)	"	5	10	0
" (Pyrites, 168°)	"	3	0	0
" 150°	"	1	5	0
" (free from arsenic, 145°)	"	1	6	0
Sulphurous (solution) S.G. 1025	"	3	0	0
Tannic (pure)	per lb.	0	1	0
Tartaric	"	0	0	11 1/4
Arsenic, white powdered	nett per ton	15	0	0
Alum (loose lump)	"	4	12	6
Alumina Sulphate (pure)	"	4	12	6
Aluminoferrous	"	2	7	6
Aluminium	per lb.	0	2	10
Ammonia, Anhydrous	"	0	1	3
" 880=28° B.	per lb.	0	0	3
" =24° B.	"	0	0	2 1/4
" Carbonate	nett	0	0	3 1/4
" Muriate	per ton	23	10	0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	37/-	
" Nitrate	per ton	38	10	0
" Phosphate	per lb.	0	0	7 1/2
" Sulphate (grey) London	per ton	9	5	0
" (grey) Hull	"	9	5	0
Aniline Oil (pure)	per lb.	0	0	5 1/4
Aniline Salt	"	0	0	4 1/4
Antimony	per ton	31	10	0
" (tartar emetic)	per lb.	0	0	7
" (golden sulphide)	"	0	0	10
Barium Chloride	per ton	6	7	6
" Carbonate (native)	"	3	5	0
" Sulphate (native levigated)	"	42	6	to 65/-
Bleaching Powder, 35 %	nett	6	17	6
" Liquor, 7 %	"	3	10	0
Bisulphide of Carbon	"	13	0	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	2	6
China Clay (at Runcorn) in bulk	"	15/-	to 30/-	
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	8
Magenta	"	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	11 1/2
Benzol, 90 % nominal	per gallon	0	0	11
" 50/90	"	0	0	11
Carbolic Acid (crystallised 40°)	per lb.	0	0	5 1/4
" (crude 60°)	per gallon	0	1	7
Creosote (ordinary)	"	0	0	1 1/2
" (filtered for Lucigen light)	"	0	0	2
Crude Naphtha 30 % @ 120° C.	"	0	0	5 1/4
Grease Oils, 22° Tw.	per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston	"	1	15	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	0
" Lucigen and " Wells " Oils	"	0	0	2 1/2
Copper	per ton	47	5	6
" Sulphate	"	16	10	0
" Oxide (copper scales)	"	41	10	0
Glycerine (crude)	"	16	10	0
" (distilled S.G. 1250°)	"	42	10	0
Iodine	nett, per oz.	0	0	9
Iron Sulphate (copperas)	per ton	1	5	0
" Sulphide (antimony slag)	"	2	0	0
Lead (sheet) for cash	"	12	5	0
" Litharge Flake (ex ship)	"	13	15	0
" Acetate (white ")	"	22	10	0
" " brown ")	"	14	10	0
" Carbonate (white lead) pure	"	16	0	0
" Nitrate	"	18	15	0
Lime, Acetate (brown)	per ton	5		
" (grey)	"	8		
Magnesium (ribbon and wire)	per oz.	0		
" Chloride (ex ship)	per ton	2		
" Carbonate	per cwt.	1		
" Hydrate	per ton	17		
" Sulphate (Epsom Salts)	per ton	3		
Manganese, Sulphate	"	17		
" Borate	per cwt.	2		
" Ore, 70 %	per ton	4		
Methylated Spirit, 61° O.P.	per gallon	0		
Naphtha (Wood), Solvent	"	0		
" Miscible, 60° O.P.	"	0		
Oils:—				
Cotton-seed	per ton	18		
Linseed	"	22		
Petroleum, American	per gallon	0		
Stearine	per ton	24		
Phosphorus (yellow)	per lb.	0		
" (red)	"	0		
Potassium (metal)	per oz.	0		
" Bichromate	nett per lb.	0		
" Carbonate, 90% (ex ship)	per ton	17		
" Chlorate	per lb.	0		
" Cyanide, 98%	"	0		
" Hydrate (Caustic Potash) 80/85 %	per ton	11		
" " (Caustic Potash) 75/80 %	"	19		
" " (Caustic Potash) 70/75 %	"	19		
" Nitrate (refined)	per cwt.	1		
" Permanganate	per cwt.	2		
" Prussiate Yellow	per lb.	0		
" Sulphate, 90 % (ex ship)	per ton	9		
" Muriate, 80 % (do.)	"	8		
Silver (metal)	per oz.	0		
" Nitrate	"	0		
Sodium (metal)	per lb.	0		
" Carb. (refined Soda-ash) 48 %	nett per ton	4		
" " (Caustic Soda-ash) 48 %	"	3		
" " (Carb. Soda-ash) 48 %	"	3		
" " (Alkali) 58 %	"	3		
" " (Soda Crystals)	"	2		
" Acetate (ex-ship)	"	14		
" Arseniate, 45 %	"	11		
" Chlorate	per lb.	0		
" Borate (Borax)	nett, per ton	18		
" Bichromate	per lb.	0		
" Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10 ton lots	9		
" " (74 % Caustic Soda)	"	8		
" " (70 % Caustic Soda)	"	7		
" " (60 % Caustic Soda)	"	6		
" " (60 % Caustic Soda, cream) (f.o.b.)	"	6		
" Bicarbonate	"	6		
" Hyposulphite	"	5		
" Manganate, 30%	"	16		
" Nitrate (95 % ex-ship Liverpool)	per cwt.	0		
" Nitrite, 98 %	per ton	29		
" Phosphate	"	14		
" Silicate (glass)	per ton	4		
" " (liquid, 100° Tw.)	"	3		
" Stannate, 40 %	per cwt.	3		
" Sulphate (Salt-cake)	per ton	1		
" " (Glauber's Salts)	"	1		
" Sulphide	"	8		
" Sulphite	"	5		
Strontium Hydrate, 100%	"	3		
Sulphocyanide Ammonium, 95 %	per lb.	0		
" Barium, 95 %	"	0		
" Potassium	"	0		
Sulphur (Flowers)	per ton	6		
" (Roll Brimstone)	"	5		
" Brimstone: Best Quality	"	3		
Superphosphate of Lime (26%)	"	2		
Tallow	"	22		
Tin Crystals	per lb.	0		
" English Ingots	per ton	68		
Zinc (Spelter)	"	15		
" Chloride (solution, 100° Tw.)	"	5		

THE CHEMICAL TRADE JOURNAL AND OIL, PAINT and COLOUR REVIEW.

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434.

SATURDAY, SEPTEMBER 14, 1895.

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UNG Foreign CHEMIST, thorough French
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Communications for the Editor, if intended for insertion in the
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reports, and correspondence on all matters of interest to
cal and allied industries, home and foreign, are solicited.
Contributors should condense their matter as much as possible,
on the side only of the paper, and in all cases give their names
clearly, not necessarily for publication. Sketches should be
on separate sheets.

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tisements prepaid, are charged at the Tariff rates which will be forwarded on

Advertisements intended for insertion in the current week's issue
should reach the office by **Thursday morning** at the latest.

CURRENT TOPICS.

THE BRITISH ASSOCIATION.

DURING this week the sixty-fifth annual meeting of this
society has been held at Ipswich. It is the second time
that this town has been the meeting place of the society, but
the fact that the last meeting was held there forty-four years
ago enables a striking contrast to be drawn between the
position of science generally then and now.

Those who knew something of the nature of the meetings
of this society were not likely to expect that this meeting
would be productive of anything so startling as last year, but
on the whole the papers read before the various sections were
quite as important as those read at previous meetings. Out-
side the sphere of chemistry there were papers of special
interest to our readers on modern carbon dioxide refrigerating
machinery, and the Hermite sewage treatment process which is
being tried at Ipswich, and so could be demonstrated as well
as described. Another paper of importance was that on
modern applications of electricity to traction purposes.

One of the chief features of the meeting is always the
President's address, a *précis* of which is given elsewhere in
this issue. Additional interest attaches to the Presidency
this year in that Sir Douglas Galton, who succeeds the
Marquis of Salisbury, has for twenty-five years been the most
able and ardent general secretary of the society. It is prob-
able that after filling the more exalted position of president
Sir Douglas will retire upon his laurels and not resume his
secretarial duties.

When a comparison is made between the last Ipswich
meeting and the present, one cannot fail to regret that such
men as Tyndall and Huxley (being only at the commence-
ment of their careers) who then laboured for the purpose of
ensuring an enjoyable meeting for the 710 members who
attended, should no longer be able to visit this town in con-
junction with some 2,000 members.

As far as the chemical section was concerned the *locus*
afforded much that was of interest, there being several large
artificial manure and chemical works in the vicinity.

THE SCOTCH OIL INDUSTRY.

There's nae luck about the house, if we may be allowed to
interpret Scotland as the "house," being the home of the
shale oil industry. The returns of almost all the various
companies engaged in the distillation of shale have in all
verity been depressing enough to make the keenest optimist
quail and fain cry Ichabod.

The comparatively recent solid paraffin combine, in con-
junction with the marked advance in the price of burning
oils, was, however, beginning to put a little fresh life into the
industry. No doubt in some cases the change in affairs will
mean very pleasant dividends, but in the majority of cases
any dividend that may be earned will scarcely wipe off the

long-standing claims of shareholders and others pecuniarily interested.

The shale miners, however, do not appear to have any thought save that they want to squeeze the lemon to their own advantage as soon as there is the slightest prospect of its again yielding juice. Without disparaging their claim to a share in the improvement that has evinced itself, we think we may be permitted to say their demand for an extra shilling per day has been made at a most inopportune moment, and the action speaks badly for the tact and wisdom of the miners' self-constituted mentors. The oil trade managers positively declare that they will close all their works rather than make the concession demanded, and yet the miners have decided to insist on the advance.

It is to be hoped that before engaging in such a struggle as this promises to be they will carefully weigh for themselves the probable upshot. With their present stocks the oil companies will not experience any particular inconvenience immediately, while the extraordinary conditions will in all probability enable the managers to effect a much-desired advance in the price of sulphate of ammonia, as well as a possible temporary advance for oils. The miners will not secure for themselves any of this additional profit by doggedly standing out for their advance just at present, but will at the same time place beyond their reach the means of earning their daily sustenance.

The railway companies will be disposed to look favourably on any project that will prevent an open rupture, so that it cannot be said that there was no third party to look to to act as an intermediary. On the other side, it may be argued that in a little while the oil companies will, for lack of shale, be unable to profit by the better prices ruling, and so will be more disposed to give way. It is a possibility truly, but what will the miners have been experiencing meanwhile? And suppose, when the companies have made a hole in their stocks and a nice profit, they prefer to bide-a-wee, who will be the gainer? The latter supposition seems the more probable of the two, for, as the past has shown, the managers of industrial concerns are in the habit of looking farther ahead than Miners' Federations, and if they foresaw that in a very short time they would have to give the advance, or be heavy losers, they would see the wisdom of pacifying the miners with the advance, and balance matters by reducing their output, so saving the expense and trouble of a strike, and simultaneously strengthen their prospects of selling at full prices. Their actual attitude is, however, unmistakable—persist in the advance and we close the works—that is how the matter stands, and once closed they are likely to remain so. Are the miners prepared to face the winter on strike pay, or are they not?

ROBERTITE EXPLOSIVES COMPANY, LIMITED.—The directors have declared an interim dividend on the preference shares at the rate of 5 per cent. per annum for the six months to June 30th last, payable on the 23rd inst.

A LARGE CARGO.—The *Georgic*, the latest addition to the cargo-carrying fleet of the White Star Line, is now on her first voyage from New York to Liverpool, and she has on board the largest general cargo that ever left America. The following entries are in her freight list:—750 head of cattle, 9,000 sheep, 3,000 quarters beef, 136,000 bushels of wheat, 90,000 bushels of corn, 550 bales of cotton, 2,000 sacks of flour, 1,800 bags of oilcake, 1,800 cases of oatmeal, 1,700 boxes of bacon, 300 barrels and tierces of provisions, 9,000 packages of lard, 3,900 barrels of resin, 700 barrels of glucose, 1,000 cases of canned goods, 300 packages of soap, 400 barrels of wax, 300 barrels of bark extract, 1,000 barrels lubricating oil, 100 tons of wood, 3,000 packages of acetate of lime, 150 barrels of oxide of zinc, and 10,000 packages of cooperage stock.

THE BRITISH ASSOCIATION.

THE PRESIDENT'S ADDRESS.

Sir Douglas Galton, on taking the chair at Ipswich, on Wednesday, proceeded to deliver his presidential address. After referring to the loss science had suffered by the death of Professor Huxley, the President reviewed the work of the Association since its inauguration. Reference to chemistry, he said, the report made to the Association the state of the chemical sciences in 1832 says that the efforts of investigators were then being directed to determining with accuracy the true nature of the substances which compose the various products of the organic and inorganic kingdoms, and the exact ratios by which the different constituents of these substances bear to each other. But since that day the science of chemistry has far extended its boundaries. The barrier has vanished which was supposed to separate the products of living organisms from the substances of minerals consist, or which could be formed in the laboratory. A number of distinct carbon compounds obtainable from organisms greatly increased; but it is small when compared with the mass of such compounds which have been artificially formed. The methods of analysis have been perfected. The physical, and especially optical, properties of the various forms of matter have been studied, and many fruitful generalisations have been made. The form in which these generalisations would now be stated probably change, some, perhaps, by the overthrow or disuse of ingenious guess at Nature's workings, but more by that change which is the ordinary growth of science—namely, inclusion in some system and more general view. In these advances the chemist has called the spectroscope to his aid. Indeed, the existence of the elements of the Association has been practically continuous with the comparatively newly-developed science of spectrum analysis, for though Newton, Wollaston, Fraunhofer, and Fox Talbot had worked at the problem long ago, it was not till Kirchhoff and Bunsen set a seal on the labours of Stokes, Angström, and Balfour Stewart that the spectra of the terrestrial elements were mapped out and grouped; that by the new elements were discovered, and the idea was suggested that the various orders of spectra of the same element are due to the existence of the element in different molecular forms—allotropic or isomeric—at different temperatures.

Few questions are of greater interest, or possess more importance, than those connected with metallic alloys. This is especially true of those alloys which contain the rarer metals; an extraordinary effects of small quantities of chromium, nickel, tungsten and titanium on certain varieties of steel have exerted profound influence on the manufacture of projectiles and on the construction of armoured ships. Of late years investigations on the properties of structure of alloys have been numerous, and among the more worthy researches may be mentioned those of Dewar and Fleming on the distinctive behaviour, as regards the thermo-electric power, electrical resistance, of metals and alloys at the very low temperatures which may be obtained by the use of liquid air. Professor Roberts-Austen, on the other hand, has carefully studied the behaviour of alloys at very high temperatures, and by employing his delicate pyrometer has obtained photographic curves which afford additional evidence to the existence of allotropic modifications of metals, and which materially strengthened the view that alloys are closely analogous to saline solutions. Professor Roberts-Austen has, moreover, shown the effect of any one constituent of an alloy upon the properties of the principal metal has a direct relation to the atomic volumes, and it is consequently possible to foretell, in a great measure, the effect of any given combination. Metallurgical science has brought about into use by cheapening the process of its extraction; and if by the use of the wasted forces in our rivers, or possibly of the wind, the extraction be still further cheapened by the aid of electricity, we may only utilise the metal or its alloys in increasing the spans of our bridges and in affording strength and lightness in the construction of our ships, but we may hope to obtain a material which may render practicable the dreams of Icarus and of Maxim, and for purposes of rapid transit enable us to navigate the air.

But, great as have been the developments of science in promoting the commerce of the world, science is asserting its supremacy even to a greater extent in every department of war. And perhaps this application of science affords at a glance, better than almost any other convenient illustration of the assistance which the chemical, physical and electrical sciences are affording to the engineer. The repair of warlike stores is not now left to the uncertain judgment of "prattlers," but is confided to officers who have received a special training in chemical analysis and in the application of physical and electrical science to the tests by which the qualities of explosives, of gases, of projectiles can be ascertained. For instance, take explosives. Till recently black and brown powders alone were used—the former as a civilisation, the latter but a small modern improvement adapted to increased size of guns. But now the whole family of nitro-explosives

ly superseding the old powder. These are the direct outcome of knowledge and not of random experiment. The construction is no longer a haphazard operation. In spite of the forces to be controlled and the sudden violence of their researches of the mathematician have enabled the justness to be determined with accuracy; the labours of the have revealed the internal conditions of the material employed best means of their favourable employment. The chemist has it clear that even the smallest quantities of certain ingredients preme importance in affecting the tenacity and trustworthiness materials. The treatment of steel to adapt it to the vast range of has to perform is thus the outcome of patient research. And of the metals—manganese, chromium, nickel, molybdenum—as with iron has resulted in the production of steels possessing extraordinary properties.

regard to assistance to research in Great Britain, this country attained for a long time a leading position among the nations of by virtue of the excellence and accuracy of its workmanship, of individual energy; but the progress of mechanical science accuracy of workmanship the common property of all nations old. Our records show that hitherto, in its efforts to main- position by the application of science and the prosecution of

England has made marvellous advances by means of effort, illustrated by the splendid munificence of such men as Joseph Whitworth, James Mason, and Ludwig Mond; and, the increasing field of scientific research compels us occasionally or Government assistance, it would be unfortunate if by any voluntary effort were fettered by State control. The British on has contributed £60,000 to aid research since its formation. r voluntary agencies to research, including those which the ent carries on for its own purposes, are too numerous to print or direct assistance to voluntary effort the Treasury contributes year to the Royal Society for the Promotion of Research, administered under a board whose members represent all of science.

Douglas was approaching the close of his address, a painful occurred, and deeply stirred the feelings of the audience. It noticed for some moments that his voice was rapidly failing, the reading of the address was becoming too severe a tax powers of endurance. After giving utterance, in very faltering the words, "the reception of warlike stores is not now left uncertain judgment of practical men, but is confided to officers e received a special training in chemical analysis," the suddenly fell forward, evidently in a state of complete

The Mayor, Lord Kelvin, and Sir J. Evans, appreciating l happened, advanced instantly to his assistance, several copying seats on the floor of the hall came forward with salts, and by this means, and the application of cold water, las, whose deathly pallor had occasioned real alarm, rapidly signs of reviving. After an interval he resumed amidst tic cheers, but only to fail a second time after reading one

Sir J. Evans thereupon took up the thread of the presidential but had not proceeded far before one of the members rose in of the hall and said that, owing to the condition of the President, there was not a lady or gentleman in the hall who in with any attention to any further proceedings. The Presi- e third attempt to resume, amidst general cries of "No,

Sir J. Evans was permitted to occupy five minutes in rapidly over the few concluding paragraphs. The Chief e from the chair moved a vote of thanks to Sir Douglas and this was seconded by Sir F. Bramwell. Sir Douglas was time sufficiently recovered to give expression to a word of and the meeting was brought to a close.

PREPARATION OF SUPERPHOSPHATES.

manufacture of "supers," unless otherwise treated, it is able in the first instance to burn the bones and convert them is known as bone-ash, as fresh bones or bone-meal produce a s on treatment with acid which is exceedingly difficult to dry. are the superphosphate from bone-ash, it is necessary to have le to mix the ingredients in which is not attacked by sulphuric wooden trough lined with lead (a sheet of lead hammered to ough) is about the best; but a wooden trough, pitched inside, er the purpos-, or a hole in the ground lined with cement. In tacle the ingredients are mixed in the following proportions: ery 40 lbs. of bone-ash add 1 gallon of water and 15 lbs. acid (commercial oil of vitriol). Pour the whole of the e the tank, then add gradually, stirring constantly with a ole, the sulphuric acid. The acid combines very violently water, and unless it be added as directed above troubles will tered. Now add gradually, a little at a time, the bone-ash,

stirring constantly with a stout pole or hoe. The above proportions should yield a mass possessing the consistence of stiff dough. If it is not stiff enough some more bone-ash may be added. Leave it to itself for a few hours, when it will dry to a friable mass, easily broken and in a fine state of division. Protect from rain when drying. The manure is now ready for use. Although burning the bones destroys the organic matter and diminishes the proportion of nitrogen, this loss is more than compensated for by the ease with which the product can be dried and handled. If fresh bones or bone-meal be used the fat which they contain prevents the complete action of the acid, and the resulting product is so slimy as to be unmanageable in many cases. If it is preferred to use fresh bones or meal, the following proportions are said to be the best:—

Dilute every half gallon of acid with one gallon of water, as directed above—that is, add the acid to the water, stirring all the time. Never on any account add water to the acid. Pour this diluted acid upon 20 lbs. of the bone-meal in the trough, taking care to pour slowly, stirring all the while. The sticky mass must now be mixed with loam, wood-ashes, peat, or gypsum, in order to dry it. Instead of burning the bones the oil may be removed by steaming them, but this is rather a troublesome process. Simple boiling with water is better than nothing, though in no case is the product so satisfactory as that prepared from burnt bones.

Instead of using acid, bones may be rendered soluble by allowing them to ferment. The following is a good plan:—

Dig a trench and fill it with alternate layers of wood-ashes and bones, beginning and ending with wood-ashes. Moisten each layer of ashes when laid, and keep the whole moist by watering from time to time. In a few months the heap may be turned over.

Bones are also dissolved by placing them in a pit and drenching with a hot solution of lye, 1 lb. of potash lye to every 4 lbs. of bones. Cover with earth, and stir occasionally for two or three weeks, when the mixture may be turned out to dry.

It will be seen that treatment with acid is the most rapid, and the product just as satisfactory, but caution is required in mixing the ingredients.

IMPORTS AND EXPORTS FOR AUGUST.

The Board of Trade returns still continue to show satisfactory improvement. Alkali shows an increased export of 23%, and an increased value of 12.5%. The import of petroleum, though 1,500,000 gallons less in quantity, is more in value by £44,000. The imports of esparto and tallow also show increases.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

ARTICLES.	Quantities.	
	1894.	1895.
Margarine	Cwt. 88,221	75,435
Copper Ore and Regulus	Tons. 13,204	17,802
Pyrites	54,578	48,182
Tin	Cwt. 73,105	68,678
Alkali	" 7,619	24,318
Brimstone	" 79,368	53,214
Dyes, Coal Tar	£. 48,855	64,646
Saltpetre	Cwt. 25,435	22,267
Petroleum	Gall. 13,360,521	11,808,438
Turpentine	Cwt. 50,931	105,204
Guano	Tons. 2,155	3,493
Nitrate of Soda	" 3,208	3,384
Paraffin	" 34,116	42,985
Rosin	Cwt. 145,469	126,103
Tallow and Stearine	" 187,776	245,995
Oil Seed Cake	Tons. 17,337	27,275
Wood Pulp	" 24,464	24,371

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

ARTICLES.	Quantities.	
	1894.	1895.
Alkali	Cwt. 389,574	479,220
Cement	Tons. 38,526	40,638
Coal and Coke	" 2,950,258	3,427,605
Copper, all kinds	Cwt. 93,981	92,304
Iron and Steel	Tons. 240,877	259,414
Chemical Manures	" 49,162	46,632
Oils, seed	" 3,862	3,673
Salt	" 75,578	79,912

CEMENT MANUFACTURE.—A company has been formed for the manufacture of cement from the lime of the Cuesta de Prado.

Modern Oil Engines.

THE TANGYE ENGINE.

THESE engines have been specially designed with a view to making them as simple as possible and so easily managed. They are particularly suitable for positions where a labourer or unskilled attendant has to take charge.

The chief characteristics are the absence of any oil tank in the base, and also of fans or pumps for starting or introducing the charge. They are made according to the "Otto" and also the "Pinkney" patents. They are usually of the horizontal pattern, and work on what is known as the two to one cycle, *i.e.*, the engine receives an impulse at every second revolution of the crankshaft—when working at full power—the intermediate revolution being used to draw in and compress the charge ready for ignition. The action of the engine is briefly as follows:—

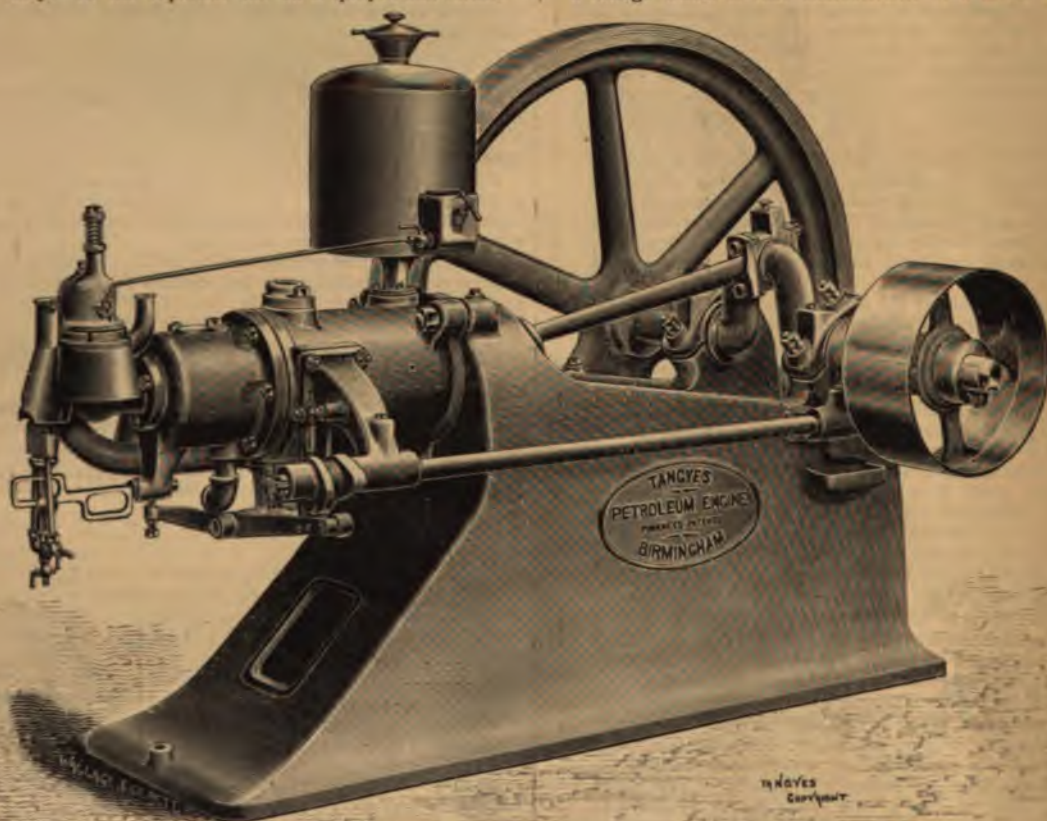
On the outstroke of the piston a charge of air and oil is drawn through an inlet valve into a vaporizer heated externally, at starting, by a wickless lamp. In the vaporizer the oil is sprayed and turned

up when running light or with a very small load. The ignition charge is timed and effected by a small lamp, so that the heat from previous explosions is not depended on for igniting. Practically any oil can be used, and no gasoline or other light dangerous oil is required. Our illustration shows a 4-brake H.P. engine, from which will be seen that it is one of the simplest. The workmanship and material are both good, and the design shows massiveness and rigidity. The firm have engines from 1 up to 10 B.H.P. in regular running sizes, other sizes are in preparation as well as a portable type which will be as light as is compatible with stability.

THE CHEMICAL RE-ACTIONS OF A GROVE CELL.

IN the course of a paper read by Prof. Ihle before the German Electro-Chemical Society, the following interesting particulars about the action of nitric or nitrous acid in a Grove's cell are given.

A Grove cell having in the platinum compartment nitric acid of strength corresponding with a content of 38 per cent. of HNO_3 produces a voltage which is that characteristic of a nitric acid cell (also



into a gas as it enters the cylinder. On the instroke the charge is compressed and ignited at the end of the stroke by means of an ignition tube, which is heated by the same lamp that is used to heat the vaporizer. Explosion now takes place, forcing out the piston for the second outstroke, and the exhaust follows on the next instroke.

The engine is started in a few minutes, all that is required being to light the lamp and heat the vaporizer, then slide the lamp under the ignition tube, and when heated turn the oil cock and give the flywheel one or two turns, when the engine starts to work and requires no further attention. There are no fans, pumps, nor any other appliances required for starting; no air nor oil pumps for introducing the charge, and no troublesome electric igniter.

The engine works equally well with either Royal Daylight or Russoline petroleum, the consumption in a 6 brake H.P. engine being less than one pint of oil per brake H.P. per hour, including that used for the lamp. The oil necessary for the proper working is supplied automatically from a tank on the engine, which holds in the smaller sizes a day's supply to the inlet valve in proportion to the power given off, being controlled by a sensitive governor. The regularity of the feed is in fact a leading feature. The vaporizer is maintained at the required heat on varying loads, thus avoiding any necessity for heating

the cell, and is sensibly constant. If the nitric acid be further diluted the cell exhibits, if only for a very short time, a voltage proper to the Smee type, *viz.*, 0.7 volt. As the strength of the nitric acid decreased, the time during which the cell retains the lower voltage increases, until at a strength of 27.28 per cent. HNO_3 the lower voltage is permanent.

The observation of this alteration of voltage may be conveniently made by filling a battery glass with dilute nitric acid, and placing small porous cells therein, the one containing an amalgamated zinc in a solution of zinc sulphate, and the other a platinum plate in acid of the required strength. Working with an arrangement of this kind it can quickly be demonstrated that the voltage of the cell depends upon the nitrous acid originally present in the nitric acid or upon the action of the cell while the circuit is closed. For example, using nitric acid of a strength below that represented by 28 per cent. HNO_3 , so that the cell gives the voltage proper to a Smee, the addition of a small quantity of potassium nitrite to the compartment containing the platinum plate at once causes the development of the higher voltage characteristic of a nitric acid cell. On removing the nitrous acid introduced, by the addition of potassium permanganate, hydrogen peroxide or urea, the voltage drops again to the lower limit. It

In this experiment with potassium permanganate, a voltage still as that of an ordinary Grove cell is noticed for a moment, on the presence of permanganic acid acting as a depolariser. However, is quickly reduced, and the aforesaid drop takes place. Using the reverse method of experimenting, and removing acid (by treatment with urea or potassium permanganate) from a strength (38 per cent. HNO_3) such that it is capable of a depolariser, the voltage proper to a Grove cell is diminished characteristic of a Smee, in spite of the fact that the acid is of strength to act in its customary manner under normal conditions. It appears, therefore, that nitrous acid, rather than nitric acid, is a depolariser in a Grove cell, or, to be more precise, that nitric acid is capable of oxidising the hydrogen which would otherwise be at the platinum plate only in the presence of nitrous acid. The action of the nitrous acid is precisely similar to that which it is in the action of nitric acid on metals, the presence of the nitrous acid being frequently essential for the activity of the latter.

RAPID ESTIMATION OF CHROMIUM.

At a recent meeting of the Iron and Steel Institute, Mr. E. H. Stead read a paper on the rapid and accurate determination of chromium. The following is the process he described, by means of which estimation can, so he states, be made in three-quarters of an hour.

CHROME ORE.

Preparation of Sample.—The sample is moderately finely ground in a mortar.

Capsule.—A nickel capsule is used. This should not be so large as to retard rapid fusion. I find the following dimensions—2 inches wide by 1 inch deep, weighing about 20 grammes. Capsules are considerably attacked; they, however, wear regularly, and now which has been used forty to fifty times, and is yet good.

Method.—Three grammes peroxide of sodium, and 0.5 gramme of chrome ore are weighed into the capsule and thoroughly mixed. The capsule is now held, by means of tongs, in a good hot Bunsen flame.

As the mass begins to melt, a circular motion is given to the capsule to prevent the chrome ore settling to the bottom. The shaking must be continued for about three minutes, when the capsule will be completely decomposed. The temperature should be such as to give a visible red, which will give a very liquid melt.

When the capsule has cooled, it is placed in a large porcelain basin, and water put into it, which causes the melt to dissolve rapidly. The basin being required to catch any spits, which otherwise be lost.

The capsule and dish are now rinsed into a No. 7 beaker; the beaker half filled with water, boiled, and again thoroughly rinsed, and to remove the last of the chromium.

A solution of sulphuric acid is then added to the beaker, and as soon as the solution clears it is diluted to about 400 cubic centimetres and decomposed any peroxide of hydrogen. After cooling, the solution is estimated by titration with ferrous sulphate and bichromate in the usual manner.

The following is a comparison of the results obtained on chrome ore by the above method and other methods:—

	Per cent.
Clarke's magnesia method	27.49
Stead's tribasic method	27.45
Peroxide of sodium method	27.50

The above method of decomposition may be used with advantage for the estimation of the insoluble residue from chrome steel and other low-temperature compounds of chromium.

FERRO-CHROME.

When I succeeded in decomposing chrome ore, I then proceeded to use the same method to the decomposition of ferro-chrome. In this case the time occupied is one hour.

It is, however, that the decomposition was very incomplete, no matter how finely the sample was pounded in the agate mortar.

In dissolving the melt, I noticed that a considerable part of the melt sank down to the bottom of the capsule and caked together with the rest of the mass, which prevented its complete oxidation.

In view of overcoming this difficulty, I added some magnesia to keep the particles of metal separate; this immediately had a favourable effect, but still a small quantity was not decomposed. On thinking the matter over, it struck me that barium peroxide, which would be more effective, and that its oxidising properties would be advantageous. This proved to be the case, complete decomposition being obtained by this means.

Preparation of the Sample.—The ferro-chrome is crushed in a steel-crushing mortar until the whole of the sample passes through a sieve with 10,000 meshes to the square inch.

I may here incidentally mention that ferro-chrome of the above fineness is completely decomposed by two hours' heating with Mr. Stead's tribasic re-agent.

The Method.—Four grammes peroxide of sodium, 0.75 gramme peroxide of barium, and 0.5 gramme ferro-chrome are mixed together in a nickel capsule, and treated exactly as the chrome ore, until the water solution is obtained in the No. 7 beaker.

The solution is then diluted with hot water to 300 cubic centimetres, boiled, and 30 cubic centimetres of dilute hydrochloric acid (1 + 1) added. This will nearly clear the solution, to which is then added sufficient saturated solution of permanganate of potash to give a strong pink colour, which should remain permanent after ten minutes boiling; 80 cubic centimetres of dilute hydrochloric acid (1 + 1) are then added, and boiled until the solution clears, when 150 cubic centimetres of hot water are added, and boiling continued until all the chlorine is driven off. This takes from five to ten minutes. The solution, after cooling, is titrated with ferrous sulphate and bichromate in the usual manner.

The following results show the efficiency of this method of decomposition:—

Method.	First Sample.	Second Sample.
	Per Cent.	Per Cent.
Stead's tribasic method	26.37	26.93
Peroxide of barium and sodium method ..	26.30	1st test 26.93 2nd test 26.99

In dissolving the water solution, sulphuric acid could not be used owing to the presence of the barium peroxide, and on attempting to use hydrochloric acid, it was found that a considerable quantity of chromium was reduced by it. It therefore became necessary to apply Stead's modification of Galbraith's method in order to re-oxidise the partially-reduced chromium.

These methods avoid the labour of very fine grinding, and reduce the time occupied for decomposition from two hours to five minutes.

EXPORTS OF ALKALI AND BLEACH.

THE following figures, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries during the month of July, 1895, as compared with the same month in 1894:—

ALKALI.

Port.	1894.	1895.	1894.	1895.
	Cwts.	Cwts.	£	£
Russia	14,987	17,640	5,977	5,771
Sweden and Norway	9,049	11,108	1,795	2,001
Germany	11,160	5,084	3,500	1,308
Holland	8,807	12,828	1,995	2,602
France	2,556	4,441	974	1,609
Spain and Canaries	23,442	24,409	9,758	7,314
Italy	14,294	21,349	5,396	6,878
United States	230,267	235,514	51,097	49,342
Australasia	22,257	35,552	7,993	6,764
British North America ..	15,854	17,731	4,626	4,694
Other countries	91,327	115,935	28,282	32,598
Total	444,000	501,591	121,393	120,881

BLEACHING POWDER, ETC.

Port.	1894.	1895.	1894.	1895.
	Cwts.	Cwts.	£	£
United States	55,893	85,080	21,747	27,926
Other countries	43,857	42,271	16,939	14,695
Total	99,750	127,351	38,686	42,621

PRICE'S PATENT CANDLE COMPANY, LIMITED.—The manufacturing profit of the six months to June 30th last was £36,452., from which deduct income-tax £1,349., leaving, with the balance brought from the previous half-year, a total of £43,945. It is proposed to declare a dividend of 15s. per share, leaving to be carried forward £15,820.

Correspondence.

* * * We do not hold ourselves responsible for the opinions expressed by our correspondents.

INSANE COMPETITION.

(To the Editor of the Chemical Trade Journal.)

SIR,—There is a saying "Competition is the life of trade," and all are agreed, I think, that it is true so long as it is competition which is fraught with benefit to the competitors; but when it partakes of what may be termed "insane competition," i.e., selling under cost of production, then it is the reverse, because it is inflicting an injury on the producer himself, and, at the same time, rendering the trade of other manufacturers non-paying.

I believe that manufacturers often sell at a loss unknowingly. I have done so, and should have continued to do so if I had not altered my system of keeping accounts, and it is because there are numbers of manufacturers who never take the trouble to make up the cost of their different articles separately that I write these few lines.

To get at the probable cost of a manufactured article it was my custom, and one which is usual with other manufacturers, to calculate on the known production from known weights of materials, taking into account also wages, coal, depreciation, interest on capital, and rent and taxes, and when the result showed what was deemed a sufficient margin, operations were commenced. It was on such a basis that I started to manufacture several articles, and I deluded myself in some cases that I made a profit when I was making a loss, and at the same time thought myself clever at being able to undersell my competitors.

Holding the idea very strongly that the only way to ascertain more exactly the cost of each article was to split up the accounts and so allow each to bear its own proportion of all the current expenses as near as possible, I eventually made arrangements for doing so, and although considerable extra trouble was thereby entailed, it was, when completed, a lesson of considerable importance. I found that by not taking into account items which were thought trivial, I had made losses on certain articles, and had been keeping up the price of others unnecessarily high, because a reduction would have seriously affected the yearly balance.

The expenses, which had been left out, and which made the most difference, were what I termed "sundries;" under this head were included office, laboratory, and travelling expenses and insurance. Besides these there had to be added the proportion of gas, water, and oil accounts, the expense attached to loading and unloading raw and finished articles, cartage, carriage, commission, bad debts, which items when added together increased the cost very considerably, and several of which become greater the smaller the production.

There are numbers of large firms who in the aggregate make a good income, who will not take the trouble to inquire into the cost of each article, but who may at the same time be ruining their neighbour by selling his only production under cost price. If manufacturers in general could be persuaded to ascertain as nearly as possible the cost price of their several productions, it would place their own business and general trade on a much surer footing, as selling below cost of production is a commercial sin, but one which is very common.

I give an example of the cost price of an article as calculated, and what it turned out when it had to bear its own share of all expenses.

Calculated:—

Coal	£2 5 0	per ton.
Chemicals	5 7 0	"
Wages	1 7 0	"
Depreciation	0 10 0	"
Interest on capital	0 5 0	"
Rent and taxes	0 6 6	"

£10 0 6

Now as the selling price was about £13., a fair profit was predicted, so the manufacture was started and carried on for three years before the items above mentioned were charged to the account in their proper proportion, when it was found that, with the exception of depreciation, which was too small by 13s. per ton, the others were fairly correct, but there had to be added—

Sundries	£2 1 0	per ton.
Carriage and carting	0 15 0	"
Gas and water	0 3 0	"
Commission	0 2 0	"
Wages extra for loading, unloading, and packing	0 1 6	"

£3 2 6

Extra depreciation

£3 15 6

So the total cost was now found to be £13. 16s., and as the price had averaged about £13. less discount, a loss of over £1. had been incurred for years.

Recently I was discussing the probable cost of a chemical with a brother manufacturer, and I asked him what he was to charge per ton for rent, office, and laboratory expenses, and he said they could be left out of account, being so small. Such a proceeding to make a result come out better than it should do, is a sign of mental short-sightedness which is very absurd.

I am, etc., MANUFACTURER

The Patent List.

This list is compiled from Official sources in the Mechanical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report frequently upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.
Automatic Apparatus for Decomposing Calcium Carbide. H. 15,991. August 25.
Manufacture of Flake Mica for Boiler Coverings. H. C. Michell. August 27.
Manufacture of Illuminating Gas, applicable also to Produce Hydrocarbon Oil and Ammonia. J. Pointon. 16,119. August 27.
Removing Oil, Tar, &c., from Wool. S. W. Wilkinson and The Gr. Ltd. 16,143. August 28.
Obtaining Sulphocarbonates from Starch. C. F. Cross. 16,256. August 28.
Recovering Volatile Solvents from Fabrics, &c. G. Ashworth. 16,267. August 30.
Purifying and Softening Water. W. S. E. McLaren and H. Carroll. August 30.
Improvements in Paint. J. D. Ross and A. Heiron. 16,312. August 31.
Extracting Metals from Ores. J. Taylor and G. A. Warburton. August 31.
Manufacture of Artificial Fuel. J. Steiger. 16,344. August 31.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade, and ALL RIGHTS of publication are RESERVED. This is the first series of abstracts of Chemical and allied patents accessible to the public.

The Manufacture of Chloride of Lead. The Chloride Electrical Syndicate, Ltd., and J. G. A. Rhodin, Clifton Hall, Manchester. E. 12,953. July 4th, 1895.

The patentees propose to heat litharge under a pressure of atmospheres with hydrochloric acid to a temperature of 200°C. acid-resisting autoclave. In this way the action is completed in time, leaving, when cool, chloride of lead and a weak supernatant of weak hydrochloric acid.

Improvements in the Manufacture of Chlorate of Soda. T. T. Best and J. Brock, both of G 11, Exchange-buildings, Liverpool. Eng. Pat. October 9th, 1894.

Concentrated solutions of chlorate of soda are produced by passing chlorine into solutions of carbonate or bicarbonate of soda; chief advantage is the economy in fuel effected by producing solutions of the chlorate, thus avoiding concentration.

Chlorine preferably diluted with inert gases is passed into a solution of sodium carbonate of 1.27 sp. gr. till saturated. This is at ordinary temperatures with a maximum of 100°F. The carbon dioxide decomposed into sodium chloride and chlorate with the evolution of carbon dioxide, which tends to prevent a rapid rise of temperature, escaping, however, it carries with it a certain amount of hypochlorous acid. To avoid the loss of this, and also any unabsorbed, the gas is passed through a series of vessels charged with the solution of carbonate. When the first vessel is saturated, emptied, re-filled with fresh carbonate, and made the last vessel in the series by means of a suitable arrangement of connecting pipes, chlorine can best be pumped through the solutions by means of a method set forth in Patent 16,151, 1893. During the process monochlorate becomes bicarbonate, and when the latter salt is economically produced in a state of sufficient purity, it can be separated from the monochlorate. The saturated solutions, after filtration, are evaporated. Sodium chloride separates, and is removed, while the chlorate can subsequently be obtained by crystallization, and purified by subsequently re-crystallizing.

Improvements in the Manufacture of Sulphuric Acid and By-products in Apparatus Adapted to such Manufacture. J. D. East Greenway-avenue, Philadelphia, U.S.A. Eng. Pat. 13,575. July (Under International Convention, January 8, 1895.)

Instead of decomposing the nitrate of soda with acid for the purpose of the necessary nitrogen compounds, thereby obtaining com-

sulphate of soda, it is proposed to decompose the nitrate, electrolytically, into NO_2 and O_2 , leaving oxide of sodium as a by-product. Solving in a limited quantity of water to form a hydrate, the proposed nitrate, if any, can easily be separated, leaving a soluble caustic soda which can be concentrated in the usual way. Apparatus in which the electrolytical decomposition is effected of an iron tank of rectangular form, so placed as to be heated by gases from the pyrites burners, thus keeping the nitrate fused. The tank is covered from the tank a series of iron plates depend, and being connected to the positive pole of a source of electricity, the former to the negative pole. Supply and discharge pipes are as well as a conduit for the evolved gases. There are three parts.

Experiments Relating to the Separation of Arsenic, Antimony, Bismuth, and other Metals from Spirit of Salt (Hydrochloric Acid), Oil of Nitric Acid, or Sulphuric Acid, and other Acid Solutions, and Apparatus therefor. W. Whitehead, 17, Market-street, Manchester, and C. Gelsharp, Jubilee-terrace, Clayton, Manchester. Eng. Pat. 18,740. October 5, 1894.

The object is to effect in a more simple and economical manner the separation of such metals as are precipitated by sulphuretted hydrogen from acid solution. It is found that better results are obtained by the mixed gases obtained by decomposing the yellow liquor derived from partially oxidized vat waste with weak HCl and heat. The mixed gases are a mixture of sulphuretted hydrogen and sulphurous gas and atmospheric air, which mixture is passed into the acid to be freed from arsenic, etc., in suitable vessels, under pressure. The nature about these said vessels is that the pipe which delivers the gas has its open end directed upward into a bell mouth on the pipe leading to the second vessel, so that some of the acid is carried forward into the second tank. A coke-packed scrubber attached to the last and down which acid flows, catches and returns any sulphuretted gas that may escape. There are two drawings showing the arrangement of the plant.

Experiments in Electrolytic Cells. W. L. Wise, 46, Lincoln's Inn Fields, London. (Communicated by E. Solvay, 25, Rue du Prince Albert, Brussels.) Eng. Pat. 14,988. August 4, 1894.

The object is to overcome the small output of most cells in relation to their surface area, on account of the resistance of the electrolyte, this patent proposes several ways of so constructing cells as to offer small resistance. Particulars the patent must be consulted.

Trade Notes.

DRUG, CHEMICAL, AND ALLIED TRADES EXHIBITION.—This exhibition was brought to a successful close on Friday. There was a large attendance, and everything appears to have gone off satisfactorily. It was expressed that the heavy chemical industries had been well represented, and this is a matter for the remedy of which steps have been taken before another year.

MRS. MUIR BROS AND CO.—We are informed that under this firm Messrs J. M. and K. Muir have commenced business at the new Chemical Works, Moscow, in partnership with their father, Andrew Muir, of London, as manufacturers, dealers in and exporters of chemicals.

BURNING LIQUID FUEL.—An improved method of burning liquid carbons or creosote oil has been patented by Mr. W. Kneem. A mixture of the hydrocarbon vapours and air is ensured by drawing the air from behind the fire-bridge. The pipes from the furnace pass under the fire-bars of the furnace and terminate in fire-chambers behind the fire-bridge; from these the air issues through numerous holes, which face towards the furnace. In this way the heated air is, as it were, sprayed into the furnace, where it is mixed with the oil vapour, which is introduced above the fire-bars, either through trays in the front of the furnace or from perforated pipes running along the furnace walls.

OIL INDUSTRY AT GALATZ.—The English linseed oil factory at Galatz last year for crushing linseed and cotton seed for oil, has been making satisfactory headway, and will probably be a success as the high tariffs on imported oils are kept up. Owing to the almost total failure of the local linseed crop the factory has had to deal entirely with imported seed, a certain amount of which was not to be imported free of duty. For the oil extracted there is a local demand at remunerative prices, but owing to the extreme scarcity of forage in Roumania there is no demand for the seed-cake for fattening cattle, &c., and this has to be exported to England to market. Efforts are being made, but so far unsuccessfully, to reduce the consumption of cake locally. Two or three other oil-mills have been set up in other parts of the country.

FIRE AT A PAPER WORKS.—On Monday a disastrous fire occurred at Springfield Paper Works, Bolton, owned by Mr. Marshall. The outbreak occurred in the rag-sorting department, which occupies the two centre buildings, and in a quarter of an hour the building was ablaze. The fire brigade promptly arrived, and were successful in restricting the conflagration from reaching the newly erected works. The damage, which is covered by insurance, is estimated at £8,000.

THE PROPERTIES OF THORIUM NITRATE.—Owing to its increased use for making incandescent lighting mantles, nitrate of thorium has become an article of commerce. The following particulars will therefore be useful in valuing the purity of the salt. The pure salt crystallizes colourless, and becomes white on drying. A faint yellow colour of it or its solution is unimportant if due to traces of organic bodies; but if due to iron oxide, uranium oxide, cerium oxide, &c., is objectionable. The pure nitrate should not give a colouration with sulphuretted hydrogen, nor with ammonium sulphide when in solution in alkaline carbonates. It is completely soluble in excess of carbonate, and is not thrown out of solution by ammonia or by dilution. On warming, the solution becomes cloudy through separation of the hydroxide, which, however, dissolves again on addition of ammonia. The nitrate crystallizing with 12 molecules of water gives on ignition 37.95 per cent. of thoria. The same salt dried at 100° C. contains 4 molecules of water, and yields on ignition 47.84 per cent. of pure white thoria. More water may be removed from the salt by drying at a higher temperature; but there is risk of the formation of difficultly soluble basic salts. If the salt with 4 molecules of water gives a residue of more than 47.8% on ignition, it may be concluded that it is contaminated with earths of lower molecular weight.

SOME PROPERTIES OF HELIUM.—Helium is very sparingly soluble in water. A recent determination gave 0.0073 as its co-efficient at 18.2 deg. The testing tube contained 162.3 arbitrary divisions, of which 26.0 were occupied by helium and 136.3 by water. After shaking, the volume of the helium was reduced to 25.0 divisions, and that of the water was increased to 137.3. As hydrogen was often evolved along with helium from minerals, it occurred to Messrs. William Ramsay, F.R.S., J. Norman Collie, Ph.D., and Morris Travers, B.Sc., in their investigations, that if a definite ratio could be found between the helium and the hydrogen evolved by the action of acid, some idea might be gained as to the valency of helium. It would be as if, for example, hydrogen and chlorine were evolved separately from salt by sulphuric acid, instead of in combination; by measuring each, the deduction could be drawn that chlorine was univalent. Experiments made to this end showed, however, that from some minerals no hydrogen is evolved. Gas, from a sample of uranite sent by Dr. Hillebrand, contained no trace of hydrogen. It is, of course, possible, and, indeed, not likely, that all hydrogen is absorbed in reducing the uranic oxide to uranous oxide. The problem then becomes a complicated one; but the gentlemen named above hope to solve it by future experiments.

PETROLEUM FATALITIES.—Mr. Wynne E. Baxter, coroner, recently held an inquiry at the Poplar Town Hall, London, respecting the death of Eliza Jane Cook, thirteen years, and Joseph Thomas Cook, aged three years, who were burnt to death through the explosion of a petroleum lamp. The mother of the children was also burnt, and now lies in a critical condition.—William Randall, coroner's clerk, said he had taken the statement of the mother, which was to the effect that on Thursday, 22nd ult., about 7.15 a.m., she was in bed and was awakened by a loud explosion, and saw her daughter Lizzie running about the room in flames. The boy, who was in his bed, was also in flames. She tried to extinguish the fire, and in doing so her clothes caught fire. She screamed for assistance, and some people came and removed them all to the hospital, where the children died the same day.—Mr. Richard Glover, inspector under the Petroleum Act, said he believed the explosion occurred through the escape of vapour due to the lamp being alight for a long time at a temperature likely to cause an explosion. The lifting of the lamp would cause the vapour to move and come in contact with the light. The lamp ought to have been turned out before its position was altered.—The Coroner said that this was only another added to the many explosions which occurred to the common lamps now in use.—The jury returned a verdict of accidental death.—An inquest was held at Sheffield, on Saturday, concerning the death of Emma Bramah, a widow. She had undressed by the light of a petroleum lamp, and when ready to retire she turned down the wick and blew down the glass. The lamp immediately exploded, the paraffin saturating and igniting the deceased's nightdress. She was terribly burnt, and death ensued shortly after admission to the hospital. Verdict, "Accidental death."—A fire broke out recently at the Sanctuary of Ribordone, Rome, in consequence of a petroleum lamp exploding. In all 14 lives were lost.—Last week the wife of a miner named Muggridge, was so dreadfully burned at Houghton-le-Spring by the explosion of a petroleum lamp that she died the same day as the accident.—Two other fatalities occurred from similar causes—one at Manchester and the other in London.

MESSRS. H. AND E. ALBERT.—This well-known firm of manure manufacturers have amalgamated all their works at Biebrich, Wednesbury, South Bank, Brymbo, Frodingham, Trench, and on the continent under the title of Chemical Works, late H. and E. Albert. The business will be carried on as usual at the London offices, 150, Leadenhall-street, E.C. The central office is at Biebrich.

THE GALICIAN OIL INDUSTRY.—It is reported from Galicia that the activity in the neighbouring oil fields is daily increasing. Companies for the production of crude oil are rapidly increasing in number. In Ropcaruska Count Merinski and Co. has commenced drilling. Rogoyski heirs have struck oil in their No. 2 at a depth of 240 m., and their No. 1 has produced 50 barrels a day for the last five months. Near this, at a depth of 235 m., oil has been found in paying quantities by M. Mrasek. Dembowski's second well, which is only 120 m. deep, produces 40 barrels daily. An unknown Hungarian firm is trying to buy up territory around here and begin operations on a large scale, but the Sekowa field has for the greater part been secured by the large firm Berghelm and McGarvey. The geological condition of the fields mentioned is very favourable for drilling, the expenses being light and oil is found at a shallow depth in paying quantity. Deeper than 300 m. has not been drilled. The drilling was through slate with oil bearing strata. At a depth of about 240 m. the sand is reached. There are now 11 refineries in this district in operation and two building.

THE RUSSIAN PETROLEUM COMBINE.—The details of the agreement as adopted by the Association of Russian Petroleum Producers, and just published, provide that the export and sale of Russian petroleum products abroad shall be entirely in the hands of a committee, selected from the members of the association, which shall operate for the joint account of all members of the association. The home market is open to all individually. The committee consists of representatives of 14 large firms and has the right to test the quality of the petroleum products; it further has the right to conclude an agreement with the Standard Oil Company in case such an agreement should be of advantage to Russian interests. The association has made an offer to smaller firms, who are not members, to buy their products at a reasonable figure and sell to the foreign markets, one-half of the profit to go to the smaller operators. By an agreement with the manufacturers of barrels the price of these has been considerably lessened. The *Russian Gazette for Commerce and Industry* hails this agreement, which is to be in force until April 1st, 1899, as a great step in the direction of increasing the influence of the Russian naphtha industry in the markets of the world.

GOLD PRODUCTION.—Van Ryn.—Production for August: Tons milled, 4,464, yielding 1,933 oz.; concentrates, 63 oz. Cyanide works—Tons, 4,735, yielding 900 oz.; total gold recovered, 2,896 oz. For July the total was 2,911 oz. United Langlaagte.—The following are the results of crushings for the month of August:—Number of days running, 29; number of stamps, 60; tons crushed, 4,872; gold won, 1,607 oz. Cyanide process—Tons treated, 3,200; gold won, 1,290 oz. May Consolidated.—The yield of gold during August was 3,585 oz. from 10,600 tons crushed; mill running 30 days. Cyanide, 2,445 oz. from 13,040 tons. The total for July was 6,025 oz. New Rietfontein.—During August crushed 3,952 tons, obtained 1,599 oz. gold; cyanide works treated 3,140 tons, yielding 664 oz.; concentrates, 65 oz.; total, 2,328 oz. For July the total was 2,235 oz. Lisbon-Berlyn.—A cablegram from the manager gives the following results for the month of August:—“Milled, 1,215 tons (of 2,000 lb.); recovered, 84 oz. Tailings treated by cyanide, 1,460 tons (of 2,000 lb.); recovered, 438 oz. Total recovered, 522 oz.” The total for July was 590 oz. Wemmer.—Result of work during August: 7,200 tons crushed, yielding 4,959 oz., 50 stamps working 30 days; and from cyanide plant 4,500 tons treated, yielding 1,562 oz.; 190 tons concentrates caught, assaying 124 dwt. For July the total was 7,481 oz.

GLOSSOP SEWAGE SCHEME.—Mr. J. W. B. Clerke conducted a Local Government Board inquiry at the Town Hall, Glossop, recently, respecting an application made by the Glossop Corporation for sanction to borrow £44,000. for works of sewerage and sewage disposal. The Corporation were represented by Mr. T. M. Ellison, Town Clerk, and Mr. Lomax, engineer, and the application was opposed by Mr. Fox, solicitor, Manchester, on behalf of Messrs. Potter and Co., Dinting Vale Printworks—Mr. Ellison explained that the inquiry was rendered necessary owing to alterations in the original scheme suggested by Major Tulloch, on behalf of the Local Government Board. The additions included the lowering of certain sewers at Woolley Bridge, the pumping of the sewage on to the outfall works, and the adoption of downward filtration. The Council had agreed to the suggested alterations, and now applied to borrow £44,000. instead of £40,000.—Mr. Fox, in opposing the application, stated that the Glossop sewers had carried off the refuse water from the printworks for over thirty years, and contended that the Corporation should now be compelled to include the effluent water from the printworks in the scheme.—Mr. Lomax replied that the Corporation were not treating with any manufacturer's refuse, but only domestic sewage, and that the present scheme could not properly treat the effluent which came from the printworks.—Evidence having been called, the proceedings closed.

THE ELECTRIC CONSTRUCTION COMPANY, LIMITED.—The report of the directors for the year ended June 30 last states that the account shows a gross profit of £46,690, including £2,260 brought forward last year. Deducting from this amount interest, outlays on maintenance of buildings, plant, and patents, general expenses, and £1,000 for depreciation, the result is a net profit of £12,091, whereas directors recommend that £1,956 be applied in payment of dividend of 7 per cent. on the preference shares, and the balance £10,134 carried forward to the credit of next account. The profit and loss account shows a considerable reduction of general expenses, and, notwithstanding the keen competition prevalent, a substantial increase of manufacturing profit. Several important electrical installations have been successfully completed during the year, the production at Bushbury has increased, and the quality of the machinery and manufactured has been fully maintained. The directors have pleasure in reporting that the works are fully employed on orders at a somewhat in advance of those obtainable last year, that the plan number of the workmen have been increased, and that they are satisfied with the efficiency and zeal of the staff and employees of the company. Among the works in progress may be mentioned important electric lighting installation at Clerkenwell and the electric equipment of the Hartlepool Tramways. It is confidently expected that the substitution at Hartlepool of electric traction for steam power formerly used will prove that tramways heretofore worked by steam power unremuneratively may be judiciously adapted for electric traction, and yield a satisfactory return on the necessary outlay. Such a result cannot fail to give a great impetus to the development of electric traction in various directions.

Market Reports.

TAR AND AMMONIA PRODUCTS.

There is practically no change in benzols, though there appears a slight tendency to firmness in 90's. Carbolic acids keep much the same, crystals (40%) are unaltered, and 60% crude is fairly steady though a fraction lower in price. Naphthas are much depressed, crude at 5d. and solvent 11d. There is no change in either creosote or anthracene. Pitch continues steady at 38s., f.o.b. East Coast.

Sulphate of ammonia has been very quiet, and there does not appear to be any immediate prospect of an improvement. In the North threatened strike of the shale miners has so far had no beneficial effect on the market, and it is rumoured that the record price of £9. has been accepted. This, however, lacks confirmation. Nearest values are London £9. 3s. 9d., Liverpool £9. 5s., Hull £9. 2s. 6d., and London £9. 2s. 6d. to £9. 1s. 3d.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there is generally a better tone, and business in alkali 58% has been done to a fairly considerable extent, but prompt and forward, at the advanced price; quotation for prompt delivery is £3. 7s. 6d., f.o.r., bags, and for 1896 delivery £4. 10s. is now asked. Caustic soda, meantime, is selling for prompt delivery at varying prices, but spot quotations are standing as for some past, viz.:—F.o.b. Liverpool, 77%, £9. 7s. 6d.; 74%, £8. 7s. 70%, £7. 10s.; 60%, £6. 10s. nett per ton, 10-ton lots and up. Soda crystals, 37s. 6d. per ton, bags, f.o.r. makers' works. Chloride of potash, 4½d.; soda, 6¼d. to 6½d. per lb. Bleaching powder is active, both for prompt and forward; spot price being £6. 17s. 6d. per ton, makers' works. For home consumption over 100 contracts have been done at £6 15s. per ton; prices for export, prompt and forward, are well maintained. Sulphate is firm at 21s., in bulk, f.o.r. makers' works. Sulphur £3. 12s. 6d. per ton. For sulphate of copper the demand is still brisk, and price for 16 10s. to £16. 15s., f.o.b. Muriatic acid is spoken of as likely to be dearer for next year's delivery. Vitriol unaltered, either for prompt or forward delivery. In acetates of lime there is little doing, and prices are unchanged. All other acetates are in a similarly quiet position and without change in value. For potash, caustic and carbonate, there is good inquiry, and prices are firmly maintained. Yellow prussiate of potash 7½d. per lb. Cyanide, 96/98%, 1s. 5d. per lb. Saltpetre is quiet. White powdered arsenic continues in active demand, and considerable inquiry; price firm at £15. nett, Garston. Nitrate of soda steady, with a firmer tendency for forward delivery at £7. 17s. to £8. per ton. In green copperas there is more business generally at improved prices. Carbolic acids in all grades are only in small request. Zinc salts are slightly firmer. Mercuric ammonia is scarce, and price rather higher at £23. 10s. per ton. Exports from various districts do not indicate any marked improvement as yet in the position of chemicals generally.

REPORT ON MANURE MATERIAL.

is a moderate amount of business doing, but there is no in the market, and buyers can only be tempted by lower prices. It is admitted on all hands that prices are low all round, and safe, but buyers seem to think that a lower level may be reached for some time, and that there is therefore nothing to hurry. It is quite possible, however, that they may wait too long. Business has been done in 75/80% Florida rock at about the price last reported. There is nothing fresh to note in the prices of rock—South Carolina, Peace River, or Algerian. The price of handy cargoes of River Plate bones is about £4. 5s. per ton, there is no business to report. Crushed Kurrachee bones to offer for autumn shipment at £4 2s. 6d. per ton, and one meal at £4. 3s. 9d. per ton, ex quay Liverpool, without duty. Nitrate of soda is quiet on spot at 7s. 10½d. per cwt. of quality, and 8s. per cwt. for refined. Autumn shipments, quality, are worth about 8s. per cwt.

LIVERPOOL MINERAL MARKET.

Improvement mentioned last week still continues. Manganese is exceptionally low, and when arrivals have come to hand, gone direct into consumption, so that prices are very firm. Manganese: The demand for this is very strong indeed, and iron firm at £6., £8., £10., and £12. per ton, according to Manganiferous iron ore is steady, and prices remain unaltered. Iron as before reported, and prices remain firm at 20s. per ton, first quality, 16s. 9d. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. Chrome ore is in good demand, and for forward delivery prices remain very firm at 70s. for 40% ore, and 110s. to 115s. per ton for prime 50% ore. Talk: There is an increased demand for this article, on account of excess of the supply, and as arrivals are very small, prices are firm at 70s., 85s., to 90s., and 100s. to 110s. per ton for "Angel White" brands. Plumbago is in good demand this week, prices remain very firm at £6. to £8. per ton. Wolframite is steady at full prices, and stocks are pretty well cleared. In moderate request this week, and prices remain firm at 16. 10s. per ton.

THE METAL MARKETS.

IRON, WEDNESDAY.—Pig iron, dull: Scotch warrants closed at 48d.; Middlesbrough, 39s. 1d. cash, and hematite, 50s. 3½d. per ton; Chilli bars, G. O. B.'s and G. M. B.'s, closed at 3d. to £46. 11s. 3d. cash, and £46 13s. 9d. to £46. 18s. 9d. per ton. Tin, steady: Straits closed at £64. 17s. 6d. to £64. 6d. cash, and £65. 5s. to £65. 15s. three months; Spanish, £66. 2s. 6d.; Lead steady: Spanish, £10. 18s. 9d. to £11. 1s. 3d. to £11. 3s. 9d.; Silesian spelter, ordinary, Nickel, 1s. 1½d. Antimony, £31. 10s. Quicksilver: 5s. 7½d.; second hands, £7. 3s. Copper shares, steady: to 2½; Copiapo, 2½ to 2¼; Libiola, 3½ to 3¾; Mason, 2¼ to 2½; Rio Tinto, 17½ to 17¾; Tharsis, 5½ to 5¾.

TALLOW, WEDNESDAY.—Market better, with moderate business. Tallow at 48s., 48s. 3d., and 48s. 2½d. cash, also at 48s. 2d. 5½d. one month; closing with buyers at 48s. 2½d. per ton. Cleveland done at 39s. 1d. and 39s. 1½d. at 39s. 2d. one month, closing with buyers at 39s. 1d. cash, and 39s. 2d. Cumberland hematite done at 50s. 5d. and 50s. 1d. one month; closing with buyers at 50s. 3½d. cash, and 50s. 4½d. Middlesbrough hematite done at 47s. 1½d. at 47s. 3d. one month, closing with buyers at 47s. 2½d. per ton. Tallow ask 47s. 4d.

LIVERPOOL OIL AND COLOUR MARKET.**WEDNESDAY.**

—Palm oil is steady, with Lagos at £20. 15s., soft oils, and Congo £19. 5s., all transit. Olive is also steady, Levant bid at £31. 10s. per ton. There is practically no change in which keeps steady at 21s. 9d. to 22s. 6d. per cwt. in export cottonseed, though quiet, is steady, with Liverpool refined cotton both offering at 17s. 6d. to 18s. per cwt., according to quantity. Castor oil is very steady, with a tendency to touch at present spot prices remain 2½d. for good seconds; first pressure French 2½d. per lb. Tallow is very scarce steady. There is a moderate business doing in resin in all

grades at full prices, the tone of the market being steady. There has been no change in spirits of turpentine, the market closing firm at 20s. 9d. per cwt. spot, with a fairly good inquiry. Petroleum is quiet, with American selling at 6d. to 7½d. and Russian refined 5½d. to 6d. per gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15. Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead unchanged. Venetian red, £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide, £22. 10s. to £25.

TYNE CHEMICAL REPORT.**TUESDAY.**

In chemicals the demand is steady, and stocks have been considerably reduced. Soda crystals are £2. 2s. 6d. to £2. 5s.; bleaching powder, £7. to £7. 5s.; sulphur, £3. 17s. 6d. per ton. Other quotations as follows:

Bleaching powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton, nett; caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; soda ash, 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ton, nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 15s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 5s. per ton, gross weight; do., 2 cwt. bags, £2. 5s. per ton, nett weight; chlorate of potash, 5d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

SALT.—South Durham salt is steady at 9s. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—The demand is still steadily maintained, and collieries working fairly well. Best Northumbrian steam, 8s. 9d. to 9s. per ton; second qualities ditto, 7s. 9d. to 8s. per ton; small steam, 3s. 3d. to 3s. 6d. per ton; gas coals, 6s. 3d. to 6s. 9d. per ton; coke firmer, 13s. 6d. to 14s. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.**TUESDAY.**

OILS.—The market here in these commodities, after some trifling fluctuations, settles down comparatively dull for linseed and cotton oils. Rape oil, however, continues to hold its own. The principal imports, adjusted to date, into Hull have been: Linseed, 388,212 quarters, against 325,876 quarters; rapeseed, 98,362 quarters, against 94,710 quarters a year ago; cottonseed, 112,246 tons, against 128,834 tons; olive oil, 8,921 casks, against 16,554 casks; rape oil, 5,738 casks, against 5,547 casks; oil cakes, 10,229 tons, against 11,715 tons; tallow, 9,295 cwt., against 17,275 cwt.; bones, 2,577 tons, against 5,208 tons; turpentine, 14,503 barrels, against 15,065 barrels. Linseed oil about 5s. per ton lower, closing steady at 19s. 10½d. naked spot, and 19s. 7½d. naked month; October-December, 18s. 10½d.; and January-April, 18s. 9d.; boiled and refined, £1. to £2. per ton extra. The export for this week has been 1,100 cwt. Cotton seed oil, refined, dull market: Spot naked, 15s. 10½d.; forward November-April, 16s. 1½d.; crude, 14s. 1½d. spot, and 14s. 9d. November-April; barrels 27s. 6d. and ordinary casks 17s. 6d. per ton extra. Spirits of turpentine unchanged. Olive oil dearer, and quoted from £33. 10s. per ton upwards, according to origin. Tallow unchanged. Cod oil quiet from £17. to £20. per ton. Boiled siccativ oil from £13. per ton. Liquid soap from £15. per ton. New wool oil from £13. 10s. per ton. Brown wool grease £8. per ton.

CAKES.—Linseed cakes dull: 95% pure, £6. per ton. Russians, £5. 12s. 6d. to £5. 15s. Oil cakes, £5. 2s. 6d. to £5. 7s. 6d. Cotton cakes steady, but not much business: Best makes, £3. 17s. 6d.; seconds, £3. 12s. 6d.; best makes, November-April, £3. 15s. sellers, £3. 12s. 6d. buyers. Rape cakes: Feeding, £4. 2s. 6d.; East India, £3. 7s. 6d.; Black Sea, £2. 12s. 6d. per ton.

PAINTS.—Makers continue busy, and a few orders for export are beginning to come in. Prices are: White and red leads unchanged.

Various colours in oil are quoted from £11. per ton upwards. Oxide of iron, dry, from £6. per ton. Venetian red, dry, from £4. per ton. Paint remover from 25s. per cwt. Imperial black varnish, £5. 10s. per ton in barrels.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

There is in the general chemicals market here a feeling of recovery and of gathering strength of a degree to which we have long been strangers. Prices have not gone up strikingly as yet, but buyers show unmistakable interest in the forward covering of their requirements, and transactions have been comparatively numerous. Soda crystals, bleaching powder, and caustic soda are all slightly higher, and the feeling is that there will be further rises, if the improvement is not after all to turn out a mere passing whim. While general chemicals promise better, it is the opposite with sulphate of ammonia, which not even the threatened lock-out in the shale-distilling industry can brighten up; in the meantime Continental feeling still continues most unpromising for a recovery, and prompt price can hardly be stated much above £9 3s. 9d. f.o.b. Leith, or £9. 5s. f.o.b. Glasgow. Operators are quite nonplussed by the persistent sluggishness of the market. Nitrate of soda is also down in price. Paraffins are unchanged in price, but well sought after on account of the prospect of a wholesale stoppage of production through the action of the shale workers. This matter will probably be decided this week.

Chief prices current are:—Soda crystals, 37s. 6d. nett, Tyne; soda ash, 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, 48/52°, £4. 10s. to £5. 5s. nett, Tyne; alum in lump, £5. 10s. nett, Glasgow; caustic soda, white, 74° £9. 5s., 70/72° £7. 15s., 60/62° £6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching powder, £6 5s to £7. 2s. 6d. nett, Tyne; saltcake, 20s; borax, English refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¼d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 4½d. less 5%, Liverpool; nitrate of soda, 7s. 9d. to 8s.; sulphate of ammonia, £9. 3s. 9d. to £9. 5s. prompt, f.o.b. Leith; salammmoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £16. 15s., less 5%, Liverpool; paraffin scale, hard, 2½d.; and soft, 1½d. to 2½d. per lb.; paraffin wax 120° semi-refined, 2½d. to 2¾d.; paraffin spirit (naphtha), 8d. per gallon; paraffin oil (burning), No. 1 6½d., and crystal 6¾d., at works, for

Scotch buyers (English sales about 1d. lower); ditto (lubricating) £4. 5s. to £4. 10s.; 885° £4. 15s. to £5., and 890/895° £5. 1 Week's imports of sugar at Greenock were 19,842 bags cane unrefined and 35,460 bags beet unrefined.

New Companies.

New Llangollen Lime and Fluxing Stone Co., Ltd.—Capital £3,000., in £1. shares. This company has been formed to acquire and carry on the business of the Llangollen Lime and Fluxing Stone Ltd., at Trevor Rocks, Llangollen, and to adopt a certain agreement.

Portable Electric Lamp Co., Ltd.—Capital £50,000. in shares. This Company has been formed to acquire certain patents for the manufacture of batteries, motors, dynamos, etc. The subscribers to the memorandum of association are: E. L. Walmsley, 30, Abchurch-lane, Brixton, clerk; F. H. Sanders, 30, Appach-road, Brixton, clerk; E. F. Grainge, Broad-street House, E.C., gent.; R. G. T. Trafalgar Buildings, Charing Cross, gent.; A. M. Forbes, 85, Church-street, E.C., clerk; L. White, 30, Lime-street, E.C., gent.; Seagrave, 5, Park Villas, Blackheath, agent.

Mutual Smokeless & Odourless Fuel & Heating Apparatus Co., Ltd.—Capital £10,000., in shares of 5s. each, of which are founders' shares. This company has been formed to carry on business of smokeless fuel and heating apparatus manufacture carried on by Abbott and Co., Peckham. The subscribers to the memorandum of association are:—H. Ward, 110, Cannon-street, secretary; T. Vincent, Lynton Cottage, Lynton-road, S.E., eng.; H. J. Lansbury, Venner-road, Sydenham, surveyor; J. Small, Nutcroft-road, Peckham, traveller; C. Wright, 58, Frith-street, Square, W., traveller; S. V. Baugh, 17, Ennersdale-road, Lewisham, accountant; J. H. Elmes, Oakhill-road, Sutton, gentleman.

Gazette Notices.

PARTNERSHIP DISSOLVED.

A. H. HARVEY and C. H. HARVEY, junr., oil and colour merchants, 47, etc., under the style of A. H. Harvey and Co.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

HAMMERSLEY, CHAS. WALTER, West Bridgford, Nottinghamshire, and Nottingham, drysalter.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM

LONDON.

Week ending August 31st.

Acetic Acid —		
Holland,	4 pkgs.	Tingte, Jacobs & Co.
"	300	Beresford & Co.
"	134	A. & M. Zimmermann
"	179	Little & Johnston
Alum —		
Holland,	154 pkgs.	Tough & Henderson
Alumina Sulphate —		
Holland,	30 pkgs.	H. Wallace & Co.
Aniline Salt —		
Holland,	3 cks.	Phillips & Graves
Antimony Ore —		
Germany,	14 c.	T. H. Lee
China,	22 c.	Soudy & Sons
Asbestos —		
France,	£13	Hernu, Peron & Co.
Germany,	36	Craven & Co.
"	4,043	Deering & Robottom
Barium Chloride —		
Germany,	23 pkgs.	Petri Bros.
Barytes —		
Belgium,	42 cks.	J. L. Lyon & Co.
"	213	W. Harrison & Co.
Holland,	69	Magee, Taylor & Co.
"	12 brls.	L. & N. W. Rly.
Germany,	19	S. H. Willoughby
Holland,	20	Beresford & Co.

Bleaching Powder —		
Belgium,	24 cks.	R. W. Greeff & Co.
Bromide of Iron —		
Germany,	15 pkgs. 25 cks.	A. & M. Zimmermann
Bromine —		
Germany,	20 pkgs. 40 cs.	A. & M. Zimmermann
Camphor —		
Hong Kong,	3,475 tubes	W. Salaman
Japan,	167 cs.	Lewis & Peat
"	379	N. S. S. Co.
"	23	W. Salaman
"	70 pkgs.	R. Warner & Co.
"	154	S. Figgis & Co.
Hong Kong,	104	City. Coml. Wf.
"	38	W. M. Smith & Sons
Caoutchouc —		
Rep. Col.,	1 cs.	Anderson, Weber & Smith
France,	5 c.	Hoare, Wilson & Co.
"	3	Prop. Bull Wf.
E. Indies,	45	Ralli Bros.
Rangoon,	26	L. & I. D. Jt. Co.
E. Indies,	65	Prop. Bull Wf.
France,	60	H. Johnson & Sons
E. Indies,	325	E. Boustead & Co.
Castor Oil —		
E. Indies,	79 cks.	Cayzer, Irvine & Co.
France,	53 brls.	J. Greig
E. Indies,	33	Ross & Deering
"	45	Soudy & Sons
"	136 cs.	H. A. Litchfield

France,	30	Lucas & Spencer's Wf., Ltd.
E. Indies,	100	Montgomery & Workman
France,	15	F. Boehm
"	12 pkgs.	Beresford & Co.
Caustic Potash —		
Germany,	4 c.	F. Allen & Sons
France,	100	Spies Bros. & Co.
Chemicals (otherwise undecorated)		
Holland,	28 pkgs. 15 cks.	A. & M. Zimmermann
"	70	T. H. Lee
"	6	L. & I. D. Jt. Co.
Belgium,	16	T. Palmer
Holland,	24	J. Barber & Co.
"	119	H. Wallace & Co.
Belgium,	£16	O. Scholzig
E. Indies,	1	W. Balchin
Holland,	1	T. H. Lee
"	70	Doulton & Co.
U States,	31	R. Greening
Cod Oil —		
Newfoundland,	655 cks.	Humphrey & Co.
Cream of Tartar —		
France,	4 cks.	M. Ashby, Ltd.
"	14	B. & F. Wf. Co.
"	60	A. Gibbs & Sons
Brisbane,	5 pkgs.	L. & I. D. Jt. Co.
France,	10	W. C. Bacon & Co.
"	1	G. Ward & Sons
Spain,	8	B. & F. Wf. Co.
France,	1	Ross & Deering
Holland,	3	W. C. Bacon & Co.
"	20	22 cks. Kirkpatrick & Co.

Dextrine —		
Germany,	100 pkgs.	Herrn
"	50	H.
"	500	W.
"	5	Prop.
Dyestuffs —		
Argols		
Italy,	130 pkgs.	Thames S.
Cape,	5	L. & I. D.
Cuteh		
Rangoon,	200 pkgs.	A. Howells
E. Indies,	3	W.
Rangoon,	25	Brown & Low
"	1,000	
Divi Divi		
E. Indies,	277 pkgs.	Walker
"	109	Flack, U
Extracts		
France,	13 pkgs.	Bailey & B
"	220	L. I. D.
Jamaica,	240	L. & I. D.
Austria,	300	Boutcher, M
France,	30	Union
"	3	Gross, S
Gambler		
E. Indies,	523 pkgs.	Pat
"	461	Brinkman

Indigo Sweden, 1 cs. M. D. Co. E. Indies, 45 cts. Parry & Co. " 33 W. J. Eales & Co. " 67 Croysdale & Co. " 15 Ross & Deering " 131 L. & I. D. Jt. Co.	Plumbago — Ceylon, 112 brls. Doulton & Co. " 72 Beresford & Co. Potash — France, 38 dra. F. W. Berk & Co. Potassium Bicarbonate — Holland, 7 cks. A. & M. Zimmermann	White Lead — Holland, 38 cks. D. Storer & Sons " 20 Spies Brs. & Co. " 103 W. Harrison & Co. " 4 A. Zumbach & Co. Germany, 14 Spies Brs. & Co. " 4 Haefner, Hilpert, & Co. Holland, 39 Colthurst & Harding	Divi Divi Hamburg, 31 bgs. Extracts New York, 100 brls. Baltimore, 120 Miller's Patent Extract Co. Ghent, 50 cks. Fiume, 250 Oak Extract Co. Fustic Vera Cruz, 545 ps. 1 lot Tampico, 6,600 Salina Cruz, 992 t. H. Rooke, Sons & Co.
Myrabolams E. Indies, 3 415 pkgs. L. & I. D. Jt. Co. " 1,200 W. France & Co. Orchella Germany, 22 pkgs. L. & I. D. Jt. Co. Saffron Spain, 1 pkg. W. J. Bush & Co.	Potassium Carbonate — Belgium, 45 c. Petri Brs. Germany, 19 Potassium Cyanide — Germany, 10 cs. Philipps & Graves Potassium Sulphate — France, 38 cyldrs. G. Mallard Pumice Stone — Holland, 12 c. Philipps & Graves Pyrites — France, 2 t. H. Johnson & Sons Quicksilver — Italy, 500 btls. L. & I. D. Jt. Co.	Wolfram Ore — Queensland, 11 t. Major & Field Wood Pulp — Holland, 707 pkgs. Philipps & Graves Sweden, 160 C. S. Lovell Norway, 484 Johnsen & Jorgensen Germany, 200 W. Friedlaender Holland, 310 W. G. Taylor & Co. Belgium, 2,238 W. Smith Norway, 2,500 W. E. Bott & Co. Germany, 36 Thames S. T. & L. Co. Norway, 4,516 Moreton Cox Brs. Sweden, 503 Tough & Henderson " 240 Henderson, Craig, & Co. " 1,120 W. G. Taylor & Co. Norway, 690	Logwood St. John, 476 t. Myrabolams Calcutta, 800 pkts. Sumac Barcelona, 10 bgs. Palermo, 100 250 bls. " 149 J. B. Moors & Co. Turmeric Calcutta, 100 bgs. Valonia Syra, 355 bgs. Barff & Co. " 167 J. L. Vuzunara Constantinople, 94
Shumac France, 100 pkgs. Shilbeck Brs. Tanner's Bark Melbourne, 101 t. A. & W. Nesbitt Belgium, 25 Sawyer, Sons & Co. France, 2 Culverwell, Brooks & Co. Belgium, 36 Leach & Co. Germany, 99 " 70 A. & W. Nesbitt Adelaide, 400 Beresford & Co. " 158 Baxter & Hoare Turmeric E. Indies, 300 pkgs. J. P. Alpe & Co. " 500 Leach & Co.	Roain — U. States, 1,600 brls. Prod. Brokers' Co. Saltpetre — Singapore, 513 bgs. Lucas & Spencer's Wf. Co. E. Indies, 849 Germany, 42 cks. J. Hall & Son " 343 P. Hecker & Co. Silica — Belgium, 432 W. Harrison & Co. Soapstone — Germany, 425 Craven & Co. Soda Ash — Holland, 6,000 c. R. Waters Sodium Carbonate — Holland, 10 c. E. Merck	Zinc Oxide — Holland, 46 cks. J. Matton Germany, 50 brls. M. Ashby, Ltd. Holland, 100 " 50 cks. Prprs. Dowgate Dk. LIVERPOOL. Week ending August 29th.	Farina — Hamburg, 500 bgs. H. Tyrer & Co. Stettin, 5,050 505 t. Brown, Geveke & Co. Trieste, 100 W. Jackson & Co. Fiume, 39 Glucose — New York, 400 brls. Boston, 18 G. E. Barton Baltimore, 150 Glue — New York, 40 cs. " 5 t. Anglo-Am. Oil Co. Boston, 2 brls. W. Rim & Co. St. Nazaire, 40 cks. Hamburg, 20 bgs. Rotterdam, 200 6 pks. Iodine — Valparaiso, 116 kgs. W. & J. Lockett
Valonia A. Turkey, 51 t. Marshall & French " 25 A. & W. Nesbitt " 156 M. D. Co. Dyestuffs (otherwise undescribed) A. Turkey, 49 pkgs. Major & Field Germany, 100 T. H. Lee Farina — France, 1 pkg. Hernu, Peron & Co. Holland, 100 Oblenschlager Brs.	Starch — Singapore, 95 cs. F. Claydon & Co. Germany, 600 Horne & Co. Holland, 850 pkgs. Little & Johnston France, 3 Seaward Brs. Holland, 81 J. Barber & Co. " 180 Philipps & Graves Belgium, 180 Sawyer, Sons, & Co. " 840 E. & T. Pink Germany, 60 J. Hall, jr., & Co. France, 10 City Coml. Wf Belgium, 194 F. Claydon & Co. " 160 Leach & Co. Germany, 700 Horne & Co. Belgium, 180 Philipps & Graves " T. H. Lee Stearine — France, 310 bgs. H. Hill & Sons " 21 Martin, Harness & Co. " 100 Walbaum & Tosetti Belgium, 151 H. Hill & Sons Sulphur — Italy, 5 t. W. C. Jacob " 515 Brandram Brs. & Co. " 5 C. J. Capes & Co. " 26 G. Boor & Co. " 5 J. T. Morton " 10 J. Kitchin, Ltd. " 2 C. Tennant, Sons & Co.	Acetate of Lime — New York, 745 bgs. Manchester Ship Canal Co. Acid — Hamburg, 4 cks. Alum — Rotterdam, 9 cks. Asbestos — Rotterdam, 19 crts. Genoa, 24 pkgs. Barytes — Antwerp, 42 cks. 100 bgs. Rotterdam, 44 Bone Ash — River Plate, 202 bgs. Borate of Lime — Iquique, 10 bgs. E. W. Vincent " 600 Antofagasta, 451 Borax — Valparaiso, 999 sks. Caoutchouc — Havre, 7 cks. Cunard S. S. Co., Ltd. Valparaiso, 7 bls. Kleinwort, Sons & Co. " 22 W. Brandt, Sons, & Co. " 51 J. H. Schroder & Co.	Manganese Ore — Ergasterio, 2,680 t. Darwen & Mostyn Iron Co. Naphtha — Philadelphia, 4,000 brls. 500 st. Nitrate — Taltal, 14,401 bgs. Paraffin Scale — New York, 739 brls. Thompson & Bedford Rangoon, 352 bxs. Phosphate Rock — Port Royal, 2,500 t. W. Johnston & Co. Pitch — Boston, 18 bxs. Potash — Antwerp, 5 brls. 10 dms. Pyrites — Huelva, 2,018 t. Matheson & Co.
Glue — " 4993 Lithium Carbonate — Belgium, 2 cs. Fuerst Brs. Magnesium Sulphate — Germany, 20 cks. Beresford & Co. " 11 Berger, Kahler & Co. Manure — E. Indies, 600 t. A. Hunter & Co. France, 250 Methyl Alcohol — Belgium, 123 dms. Stein Brs. Germany, 6 Holland, 100 pkgs. Lister & Biggs Mica — E. Indies, 2840 W. M. Smith & Sons " 150 Blyth, Greene & Co. Nickel Sulphate — Holland, 2 cks. J. Owen Ochre — France, 39 cks. W. Harrison & Co. Holland, 10 pkgs. Philipps & Graves France, 46 cks. J. L. Lyon & Co. " 15 D. Storer & Sons	Talc — Austria, 428 R. Johnson & Co. Tallow and Stearine — France, 1 cs. Hernu, Peron & Co. U. States, 25 cks. Allan Brs. & Co. Tar — U. States, 1,100 brls. Prod. Brokers' Co. Tartaric Acid — Holland, 15 pkgs. B. & F. Wf. Co. " 40 Kirkpatrick & Co. " 8 F. C. Devon & Co. Turpentine — U. States, 1,140 brls. Prod. Brokers' Co. Savannah, 1,500 A. Funck & Co. " 3,172 Nickoll & Knight Ultramarine — Belgium, 8 brls. Leach & Co. Holland, 4 cks. H. Hodson & Co. " 3 Magee, Taylor, & Co. Germany, 5 cs. Haefner, Hilpert, & Co. Holland, 20 cks. Thames S. T. & L. Co., Ltd.	Castor Oil — Genoa, 10 cs. Chemicals (otherwise undes.) — New York, 50 bdls. Rotterdam, 5 cs. Chrome Ore — Volo, 300 t. G. G. Blackwell, Sons & Co. Colours — Hamburg, 5 cs. Copperas — Hamburg, 32 cks. H. Tyrer & Co. Cottonseed Oil — New York, 25 brls. N. Orleans, 1,301 Cream of Tartar — Barcelona, 5 cks. Dried Blood — River Plate, 94 bgs. Dyestuffs — Algarrobillia Valparaiso, 564 hf.-bgs. 305 sks. Argols Oporto, 23 cks. German Bk. of London Cochineal Las Palmas, 7 bgs. Canary Island Trading Co., Ltd. Gd. Canary, 25 J. M. Ceballos & Co. " 17 Kolp & Co. Cutch Rangoon, 1,115 bxs.	Salt — Hamburg, 750 bgs. 195 t. Saltpetre — Calcutta, 624 bgs. Ralli Brs. Hamburg, 4 cks. Slag — Barcelona, 57 brls. Soap — New York, 103 bdls. Soda — Antwerp, 5 brls. Sodium Nitrate — Pisagua, 3,889 bgs. Primitoa Nitrate Co., Ltd. Starch — Baltimore, 250 bgs. Antwerp, 14 cs. Rotterdam, 275 Stearine — New York, 25 hds. Sulphur Ore — Huelva, 1,512 t. Matheson & Co. Tallow — River Plate, 489 cks. B. Ayres, 86 hds. 1,103 pps. 70 hf.-pps. Tartar — Bordeaux, 10 cks.
Paraffin Wax — U. States, 10 brls. Williams, Torrey & Co. " 1,088 Anglo-American Oil Co. Phosphate Rock — W. Indies, 855 t. London Phosphate Syndicate Belgium, 4 Chemical Wks. Pitch — Holland, 12 cks. Beresford & Co. France, 48 brls. C. S. Lovell N. Russia, 420 Fellows, Morton & Co. U. States, 20 cks. Watts & Co.	Yarnish — U. States, 8 pkgs. Anglo-American Oil Co. " 42 Beck & Pollitzer " 79 Allan Brs. & Co. Belgium, 5 Wilson & Co. U. States, 1 W. E. Peck & Co. France, 16 Flageollet & Co.	White Lead — Holland, 38 cks. D. Storer & Sons " 20 Spies Brs. & Co. " 103 W. Harrison & Co. " 4 A. Zumbach & Co. Germany, 14 Spies Brs. & Co. " 4 Haefner, Hilpert, & Co. Holland, 39 Colthurst & Harding Wolfram Ore — Queensland, 11 t. Major & Field Wood Pulp — Holland, 707 pkgs. Philipps & Graves Sweden, 160 C. S. Lovell Norway, 484 Johnsen & Jorgensen Germany, 200 W. Friedlaender Holland, 310 W. G. Taylor & Co. Belgium, 2,238 W. Smith Norway, 2,500 W. E. Bott & Co. Germany, 36 Thames S. T. & L. Co. Norway, 4,516 Moreton Cox Brs. Sweden, 503 Tough & Henderson " 240 Henderson, Craig, & Co. " 1,120 W. G. Taylor & Co. Norway, 690	Glucose — New York, 400 brls. Boston, 18 G. E. Barton Baltimore, 150 Glue — New York, 40 cs. " 5 t. Anglo-Am. Oil Co. Boston, 2 brls. W. Rim & Co. St. Nazaire, 40 cks. Hamburg, 20 bgs. Rotterdam, 200 6 pks. Iodine — Valparaiso, 116 kgs. W. & J. Lockett

Salt—
 sim, 300 bgs.
 rg, 2,607
Lead—
 am, 52 cks. J. Rankine
 & Son
Pulp—
 sim, 80 bls.
 nia, 2,192 pks.
 rg, 650
hes—
 am, 1 ck. J. Rankine
 & Son

TYNE.

ending August 31st.
Chloride—
 rg, 187 bgs. Tyne S. S. Co.
 am, 300
 —
 am, 11 cks. Tyne S. S. Co.
 p, 440 bgs.
 —
 — 5 brls
 am, 2 cs. Tyne S. S. Co.
 p, 1 brl.

Farina—
 Antwerp, 5 bgs. Tyne S. S. Co.
Glue—
 Hamburg, 1 cs. Tyne S. S. Co.
 Rotterdam, 10 bgs.
Lead Acetate—
 Hamburg, 1 ck. Tyne S. S. Co.
Limestone—
 Antwerp, 1 cs. 9 crts. Tyne
 S. S. Co.
Pyriltes—
 Huelva, 1,831 t. Scott Bros.
Saltpetre—
 Hamburg, 3 cks. Tyne S. S. Co.
Soap—
 Rotterdam, 3 cs. Tyne S. S. Co.
Starch—
 Rotterdam, 34 cs. Tyne S. S. Co.
 Antwerp, 12
Ultramarine—
 Hamburg, 31 cks. Tyne S. S. Co.
White Lead—
 Antwerp, 30 brls. Tyne S. S. Co.
Wood Pulp—
 Gothenburg, 120 bls.
 Christiania, 40
 Holmstrand, 710

GOOLE.*Week ending August 28th.*

Chemicals (otherwise undescribed)
 Hamburg, 11 cks. 1 cs.
Colours—
 Hamburg, 34 cks.
 Ghent, 6
Dyestuffs—
 Alizarine
 Rotterdam, 47 cks.
 Logwood
 Belize, 1,537 t.
Dyestuffs (otherwise undescribed)
 Rotterdam, 290 cks. 37 cs.
 Boulogne, 11 1 35 pkgs.
Farina—
 Delfsyzhl, 2,234 bgs.
 Antwerp, 3
Potash—
 Rotterdam, 12 cks.
 Dunkirk, 2
Saltpetre—
 Rotterdam, 525 bgs.
 Hamburg, 1 ck.
Starch—
 Hamburg, 20 cs.

Tartar—
 Rotterdam, 2 cks.
Waste Salt—
 Hamburg, 1,149 cks. 500 bgs. 90 t.
Wood Pulp—
 Rotterdam, 171 bls.
 Hamburg, 1,200
Zinc Ashes—
 Hamburg, 7 cks.
Zinc White—
 Antwerp, 20 cks.

GRIMSBY.*Week ending August 31st.*

Albumen—
 Antwerp, 2 cs.
Caoutchouc—
 Hamburg, 5 cs.
Colours—
 Rotterdam, 28 cks. 23 pks.
Painters' Colours—
 Rotterdam, 4 cs. 1 ck. 9 pkgs.
Plumbago—
 Hamburg, 1 bg. 1 ck.
Starch—
 Antwerp, 22 cs.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.**LONDON.***ending September 4th.*

ium Carbonate—
 rue, 20 cs. £31
ium Chloride—
 t, 1 t. £18
 tinople, 3 10 c. 129
 am, 5 190
 — 2 48
ium Sulphate—
 55 t. 10 c. £550
ous Ammonia—
 15 clydrs. £33
 — 3 t. 10 c. £56
Acid—
 e, 20 cs. £32
 — 14 c. £15
Soda—
 Bay, 6 c. £8
 rue, 17 27
 ion, 5 t. 16 50
 ion, 7 10
 abeth, 6 7
 Bay, 2 6 66
 — 6 16 112
als (otherwise undes.)—
 jia, 2 t. 15 c. £25
 r, 12 cs. 29
 rue, 5 260
acid—
 — 2 c. £15
 3 cks. 10 79
 am, 1 kg. 152
 rsburg, 4 cks. 5 63
 — 10 31
roducts—
 rine
 rsburg, 6 cs. £320
 al, 17 cks. 235
 — 50 3 855
ne—
 — 1 cs. £27
ol—
 am, 30 cks. £171
 rg, 53 brls. 160
olic Acid—
 am, 25 cks. £84
 e, 3 cs. 12
ote—
 Cong, 5 cks. £12
tha—
 e, 4 cks. £25
 — 25 50
 — 10 pks. 10
ors—
 dm, 110 t. £202
 rk, 264 133
 Cong, 4,288 bgs. 801
 — 1,067 cks. 627
 — 250 744

Tar
 St. Petersburg, 1,329 brls. £648
 Mormugao, 20 runs. 12
 E. London, 250 drs. 11
 Delagoa Bay, 150 8
 Helsingfors, 400 608
 Hobart, 50 9
Tar Oil
 New York, 1,000 cks. £425
Coal Products (otherwise undes.)—
 Napier, 40 drs. £40
Copper Sulphate—
 Boston, 20 t. £316
Copperas—
 Varna, 4 t. 19 c. £10
Cream of Tartar—
 Melbourne 1 t. 1 c. £78
 Calcutta, 10 40
 Wellington, 5 19
 Maryboro', 10 cs. 26
 Yokohama, 1 82
Disinfectants—
 Bombay, 65 drs. 13 kgs. £59
 Melbourne, 24 cs. 44
 Sydney, 2 6 c. 38
Magnesia—
 Sydney, 10 cs. £16
Manure—
 Wellington, 200 t. £900
 Treport, 99 10 c. 700
Phosphate—
 Stettin, 644 t. 8 c. £1,1836
Phosphorus—
 Hong Kong, 2 cs. £27
Potassium Chlorate—
 Lisbon, 2 t. £82
 Gothenburg, 5 kgs. 11
Potassium Cyanide—
 Delagoa Bay, 30 cs. £460
 Amoy, 1 ck. 11
Potassium Prussiate—
 Calcutta, 1 t. 10 c. £114
Saltpetre—
 Wellington, 5 c. £15
 Melbourne, 1 t. 15 39
 Sydney, 10 12
 Gibraltar, 27 10 603
 Limon, 2 46
 Rio de Janeiro, 12 9 296
Sheep Dip—
 Pt. Elizabeth, 1,000 cs. £1,500
 Cape Town, 500 750
 E. London, 500 750
 Natal, 2 t. 12 c. 125
Sodium Bicarbonate—
 Delagoa Bay, 1 t. 4 c. £10
 Bulawayo, 10 7
 E. London, 1 7
 Auckland, 4 7 28
 Corinto, 1 8
 Hobart, 1 8
Sodium Carbonate—
 Natal, 1 t. 8 c. £17

Sodium Sulphate—
 Ghent, 60 t. £60
Sodium Tartrate—
 Lisbon, 3 cks. £10
Sulphuric Acid—
 Algoa Bay, 3 t. £26
Superphosphate—
 Las Palmas, 10 t. £38
Tartaric Acid—
 Melbourne, 5 c. £23
 St. Petersburg, 5 28
 Sydney, 15 kgs. 75

LIVERPOOL.*Week ending September 4th.*

Albumen—
 Boston, 1 t. 3 c. £23
Alum—
 Smyrna, 3 t. 19 c. £22
 Constantinople, 2 17 13
 Messina, 1 5
 Havana, 6 20
 Lisbon, 5 4 23
 Talcahuano, 2 17 3 q. 13
 Varna, 4 9 5 21
 Galatz, 1 9 3 7
Aluminoferrie—
 Calcutta, 52 t. 6 c. 3 q. £150
Ammonia (Liquid)—
 B. Ayres, 10 c. £114
Ammonium Carbonate—
 Odessa, 1 t. 10 c. £48
 Hamburg, 5 3 q. 165
 Naples, 4 7
 Vigo, 12 20
Ammonium Chloride—
 Antwerp, 1 t. 2 c. 2 q. £28
 Barcelona, 2 15 85
 Alexandria, 1 35
 Syra, 2 2 5
 Piræus, 4 8
 Constantinople, 1 4 7
 Gijon, 1 3 42
 Montreal, 2 2 49
Ammonium Sulphate—
 Samarang, 101 t. 10 c. 2 q. £985
 Sourabaya, 126 1,260
 New York, 25 13 250
 Tagal, 46 3 3 459
 Cheribon, 20 3 193
 Marseilles, 20 4 2 191
 Genoa, 105 3 9 1,014
 Venice, 10 5 123
 Castagna, Spa., 10 1 3 98
 Las Palmas, 1 10 15
 Gd. Canary, 20 193
 Melbourne, 1 1 1 11
 La Pallice, 100 905
 Boston, 52 5 1 498
Asbestos—
 Havana, 30 cs.

Bleaching Powder—
 Boston, 341 cks. 123
 Genoa, 67
 Leghorn, 64
 Montreal, 60
 Naples, 32
 New York, 104
 Philadelphia, 60
 Riga, 57
 Alicante, 29
 Newport News, 50 brls.
 Vigo, 7
Boracic Acid—
 Calcutta, 1 t. £23
 New York, 14 c. 1 q. 10
 Adelaide, 10 16
 Yokohama, 2 10 75
Borax—
 Sundswall, 7 c. £10
 Hamburg, 5 t. 2 111
 Montreal, 16 16
 Antwerp, 2 2 42
 Rotterdam, 3 2 2 q. 63
 Algoa Bay, 2 2 3 43
 Stockholm, 3 19 77
 Sydney, 2 18 3 63
 Barcelona, 1 1 1 21
Carbolic Acid—
 Hamburg, 14 t. 15 c. £728
 Brisbane, 2 13 pkgs. 17
 Algiers, 2 7
 Genoa, 9 3 q. 26
 New York, 4 7 2 240
 Antwerp, 5 12 1 76
Carbon Bisulphite—
 Melbourne, 12 c. 2 q. £8
Carbonic Acid Gas—
 Singapore, 1 t. 8 c. 3 q. £6
Caustic Potash—
 Savanilla, 2 c. £3
 Porto Alegre, 2 3
 Savanilla, 2 1 q. 5
Caustic Soda—
 Alexandria, 82 dms.
 Brisbane, 20
 Calcutta, 20
 Catania, 10
 Copenhagen, 6
 Danzig, 5
 Fiume, 30
 Hamburg, 110 47 cs. 4 brls.
 Hong Kong, 5 6 cks.
 Melbourne, 4 crts.
 Palermo, 10
 Penedo, 20
 Puerto Cabello, 18
 Samarang, 20
 Sydney, 20 bxs.
 Talcahuano, 50
 Trinidad, 4
 Vera Cruz, 260
 Adelaide, 15
 Bahia, 50

Barcelona,	250	25
Bilbao,	60	
Bombay,	40	
Boston,	50	78 brls
Cincinnati,	50	
Galatz,	60	
Genoa,	63	
Havre,	15	
Kingston,	7	
Leghorn,	30	
Louisville,	100	
Mauritius,	31	
Montreal,	130	
Newport News,	50	
New York,	150	125
Santos,	50	

Chemicals (otherwise undescribed)

Gothenburg,	15 c.	£27
Rotterdam,	1 t.	37
Philadelphia,	14	456
Santos,	9	3 q.
Varna,	9	19
Smyrna,	1	37
Genoa,	1	37
Hamburg,	1	7

China Clay—

Lisbon,	20 t.
Montreal,	15
Philadelphia,	574
Piræus,	30
Boston,	130
Calcutta,	45
Paris,	20 bgs.

Citric Acid—

Valparaiso,	1 c.	3 q.	£12
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Cobalt Oxide—

Hamburg,	1 c.	£25
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Coal Products—

Greosote Oil	
Victoria, B.C.,	20 cks.
Naphtha	
Ghent,	16 cks.
Pitch	
Valparaiso,	20 brls.
New York,	5 t.
Tar	
Ibrail,	16 brls.
Philadelphia,	100
New York,	15 dms.

Copper Sulphate—

Savannah,	6 c.	£5
Tampico,	20 t.	330
Nantes,	5	16
Constantinople,	5	3 q.
Sydney,	20	330
Vera Cruz,	17	3
Kingston, Ja.,	1	15
Catania,	4	17
Brisbane,	1	16
Melbourne,	10	3
Passages,	5	2
Barcelona,	25	3
Galatz,	10	18
Palermo,	1	12

Copperas—

Varna,	8 t.	18 c.	£13
E. London,	2		6

Lime—

Gd. Popo,	2 t.	19 c.	£6
Little Popo,	1	17	4
Halifax,	1 ck.		5
Lisbon,	19	1 q.	5

Magnesia—

Adelaide,	6 cs.	
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Magnesium Chloride—

Rangoon,	3 t.	18 c.	£22
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Magnesium Sulphate—

Alexandria,	80 kgs.	
Rangoon,	100	
Sydney,	30 bgs.	
Brisbane,	25 cs.	
Savannah,	2 lbs.	

Manure—

Genoa,	220 t.	5 c.	1 q.	£1,215
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Metallic Sodium—

Hamburg,	1 t.	1 c.	£295
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Oxalic Acid—

Boston,	5 t.	2 c.	2 q.	£165
Lisbon,	1	2	1	25

Paint—

Cartagena, N.G.,	6 cks	40 kgs.	110 dms.
Colon,	7		
Dakar,	150		
Malta,	2		
Mayaguez,	45		
M. Video, 2 pks.			
Smyrna,	40		
Stockholm,	6		
Valencia,			10 dms.
Valparaiso, 25 cs.			
Cardenas,	10		

Galatz,	100
Havana,	4
Ibrail,	6
Maceio,	18
New York,	3
Para,	28
Rosario,	1
Sierra Leone,	25

Painters' Colours—

Bahia,	1 brl.	5 cks.	7 kgs.	9 cs.
Cape Town,	6	67		
Coquimbo,	25			
Corfu,				
Iquique,	1	90		
Lisbon,	26			
Malta,		400		
Manila,	10	250		
Manzanillo,	1			
Montreal,	31			
New York, 149				
Para,	8	22	3	2 hds.
Pernambuco,		40		19 tcs.
Rangoon,		70		
Rio Grande,				1 cs.
Do Sul,	17			
Salaora,	2	3		
San Francisco,	200			
Sourabaya,	40			
Alexandria,	100			
Antwerp, 5 brls.				
B. Ayres, 30				
Calcutta,				
M. Video, 20				
Newcastle, 1				
Paris,				
Savannah,				
Talcab'no, 163				
Valparaiso, 25				

Phosphate of Lime—

Porto Alegre,	50 t.	£17
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Phosphorus—

Hiogo,	1 t.	£250
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Potassium Bichromate—

Piræus,	8 c.	£20
Yarmouth,	8	2 q.
Antwerp,	13 t.	9 4

Potassium Carbonate—

Baltimore,	11 t.	17 c.	£212
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Potassium Chlorate—

Genoa,	10 c.	£20
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Potassium Chloride—

Kingston, Jam.,	1 t.	47
Malta,	1	3
St. Petersburg,	15	55
Oporto,	2	98
Rotterdam,	2	15
Genoa,	2	10
Amsterdam,	1	4
Gothenburg,	2	10
Tampico,	1	10
Alexandria,	1	10

Potassium Prussiate—

Montreal,	3 t.	10 c.	£16
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Salt—

Akassa,	4 c.	
Antwerp,	230 t.	
Boston,	370	
Calcutta,		
Copenhagen,	1,679	
Ghent,	200	
Iquique,	17	17
Laurvig,	250	
Melbourne,	100	
Montreal,	385	15
Orehak,	87	
Para,	71	
Port Maria,		
Rio de Janeiro,	19	
Rotterdam,	100	
Algoa Bay,	8	19
Arica,	7	10
Brisbane,	473	13
Buguma,	22	3
Drewin,	5	
Gothenburg,	7	13
Gd. Bassa,	12½	
Gd. Bassam,	17½	
Gd. Lahou,	10	
Mobile,	1,000	
St. Petersburg,	598	
Sierra Leone,	158	

Salt Cake—

Boston,	50 t.	9 c.	£88
Oporto,	20		
Antwerp,	50	2	106
Philadelphia,	863	12	844

Saltpetre—

Porto Alegre,	1 t.	9 c.	2 q.	£33
Rio de Janeiro,				
Bahia,	2	17	1	68
Funchal,				
Para,	62	10		1,410

Sheep Dip—

Boca,	2 t.	£80
Punta Arenas,	3	76
B. Ayres.	31	10 c. 3 q. 860

Soap—

Alexandria,	30 bxs.		
Appam,	50		
Asim,	60		
Barbadoes,	680		
Calcutta,	1,005	8 cs.	
Christiania,	180		
Constantinople,		10 kgs.	
Coronel,	20		
Falmouth,	50		
Funchal,	5		
Hamburg,	1,000		
Iquique,		1	
Lagos,	52		
Manaos,	830		
New York,	750	1,500	
Penang,	50		
Pisagua,		1	
Pt. Natal,	45		
Rangoon,	5		
Rotterdam,		525	50 cks.
S. John's, N'd,	1,450	2	
Savannila,		12	
Singapore,	300	27	
Trinidad,	1,415		
Winnebuh,	50		
Algoa Bay,		34	
Bombay,	1,085		
Boston,		500	
Chama,	75		
Curacao,	50		
Delagoa Bay,		10	
Dominica,	25		
E. London,	200	5	
Gibraltar,	100		
Gijon,		1	
Havre,		990	
Kingston,	1,800		
Kurrachee,		54	
Las Palmas,	303		
Malta,		105	
Montreal,		750	
N. Orleans,	525		
Philadelphia,		1,500	3 brls.
Sany Point,	1		

Soda—

N. Orleans,	50 dms.	
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Soda Alkali—

Barcelona,	70 brls.	
Para,	30	
Kingston,	15	

Soda Ash—

Adelaide,	104 brls.	3 tcs.
Baltimore,	3,312 bgs.	
Bari,		
Boston,	1,000	123
B. Ayres,	500 brls.	64
Calcutta,		41 cks.
Callao,	50	
Hamburg,		
Hiogo,		
Melbourne,		
M. Video,		
Montreal,		
New York,	1,466	389
Pernambuco,	334	35
Philadelphia,	2,380	100 kgs.
Rangoon,	45 brls.	505 tcs.
Rio de Janeiro,		
Samarang,		
San Francisco,		
Sydney,		
Talcabano,		
Yokohama,		
Copenhagen,		
Ghent,		
Gothenburg,		
Johannesburg,		
Lisbon,		
Philadelphia,		

Soda Crystals—

Boston,	84 cks.	100 bgs.
Constantinople,		45 brls.
Halifax,		
Philadelphia,	190	25 kgs.
Montreal,	20	175

Soda Oxide—

Melbourne,	4 cs.	
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Sodium Bicarbonate—

Algoa Bay,	90 kgs.	
Amsterdam,	7	
Antwerp,		
Baltimore,	350	
Bordeaux,	25	
Boston,	300	
B. Ayres,		
Cape Town,	60	
Christiania,	80	
Constantinople,	30	
Genoa,	50	
Halifax,	150	

Hamburg,	30	
Havana,	25	
Hiogo,	1,130	
Lisbon,	20	
Malta,		
Melbourne,	170	
M. Video,	45	
Montreal,	100	
Naples,	50	
Newcastle,	65	
Newport News,	350	
Paris,	225	
Passages,	85	
Pt. Elizabeth,	20	
Rangoon,	50	
Samarang,		
Smyrna,	30	
Sydney,	220	
Tampico,	40	
Trieste,		
Valencia,	20	
Vera Cruz,	40	
Brisbane,	120	
Catania,	20	
Mauritius,	40	
New York,	300	

Sodium Carbonate—

Boston,	56 brls.	
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Sodium Chlorate—

Hamburg,	25 kgs.	2 cs.
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Sodium Prussiate—

New York,	20 cks.	
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Sodium Silicate—

Oporto,	12 cks.	21 bds.
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Sulphur—

Smyrna,	99	
Syria,	15	
Valencia,	33	
Constantinople,	20	
Genoa,		
Malta,	11	
Havre,		
Marseilles,	10	
Mauritius,		
Montreal,	7	

Sodium Sulphate—

Montreal,	10 cks.	
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Sulphur—

Porto Alegre,	21 c.	3 q.
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Sulphuric Acid—

Boston,	250 t.	4
Halifax,	50	2
Montreal,	10	2
Trinidad,	5	2
Para,	8	10

Superphosphate—

Las Palmas,	2 t.	
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Tartaric Acid—

Valparaiso,	4 c.	2 q.
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Treacle—

Gothenburg,	125 cks.	30 bds.
Norkoping,	50	110 bds.
Stockholm,		
Antwerp,		
Brussels,		
Gefle,	65	877½
Malmo,	5	830½
Sundervall,		
Terneuzen,		

Yarnish—

Callao,	2 cs.	
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Zinc Chloride—

HULL.

ending August 31st.

4 cks.	
6 cks.	
124 bgs.	
51	
686	
6 dms.	
25 cks.	
50 cks.	
10	
4 cks.	
8	
1 cs.	
25 cks.	
140 dms.	
3 cks.	
3 cks.	
10 cs.	
11	927 slabs.
3	
55	135 pks.
10	12 pks.
1	10
8 pks.	24
2	22
17	90
20 kgs.	20 pks.
9	
14	
6	
19	12
3	
10 bgs.	
101 c.	
202	
42	
80	
150	
510	
303	
101	
100	
2 cks.	
4 pkgs.	
70 bgs.	
16 cks.	
10 bgs.	
155 c.	
9	
34	
506	
18	
52	
7	
2	
16	
401	
3 t.	
2 cks.	
20	
120 bgs.	
500	
10 cks.	
37 cks.	2 pks
2	12 kgs.
2 cs.	2 dms.
14	
6	
20	
3	
4	
1	
15	
20	
4	
1 pkge.	
56 pks.	
8	

Helsingfors,	1	1
Malta,	43	5
Stettin,	8	
Trieste,		
Pitch—		
Antwerp,	140 t.	
Danzig,	1 ck.	
Slag—		
Danzig,	389 t.	
Drontheim,	50	
Stettin,	96	
Uleaborg,	50	
Soap—		
Antwerp,	60 crts.	
Gothenburg,	2 cs.	
Soda Ash—		
Riga,	100 bgs.	
Starch—		
Gothenburg,	10 bgs.	
Tallow—		
Amsterdam,	60 cks.	
Gothenburg,	20	
Rotterdam,	21	
Stockholm,	26	
Uleaborg,	1	
Tar—		
Antwerp,	2 cks.	
Abo,	100	
Christiania,	4	
Copenhagen,	8	
Danzig,	5	
Rotterdam,	6	
Wasa,	100	
Treacle—		
Abo,	125 cks.	
Uleaborg,	5	
Varnish—		
Antwerp,	2 cs.	
Ghent,	1	
Stockholm,	2	
Stettin,	6 cks.	
Wasa,	5	

GLASGOW.

Week ending September 5th.

Ammonia—		
Dieppe,	101 t.	8 c.
Ammonium Sulphate—		
Barcelona,	25 t.	14 1/2 c.
France,	20	4 1/2
Valencia,	86	4 1/2
Baltimore,	151	16 1/2
Barbadoes,	12	3
Bordeaux,	10	5 1/2
Nantes,	35	10
Aniline Colours—		
U. States,		£68
Bleaching Powder—		
Calcutta,		£638
Borax—		
Dunedin,		£27
Caustic Soda—		
Dunedin,	4 t.	1 1/2 c.
B. Ayres,	4	7 1/2
Coal Products—		
Benzol		
Hamburg	8 dms.	
Naphtha		
Dieppe,	26 t.	
Pech		
Dieppe,	223 t.	
Hamburg,	100 cks.	
Dyestuffs—		
Extracts		
Cornwall,		£325
Genoa,		45
Hamilton,		66
Victoria,		221
Gambier		
Dunedin,		£22
Logwood		
Canada,		£27
Dunedin,		72
Wellington,		37
Dyestuffs (otherwise undescribed),		
Dunedin,	1 1/2 c.	
Gelatine—		
Canada,		
Dunedin,	7 c.	£73
Glucose—		
Baltimore,		£41
Lead Acetate—		
Montreal,		£27
Linseed Oil—		
Hong Kong,	5 t.	6 c.
Melbourne,	1	1 1/2
Wellington,	1	1 1/2
Rangoon,	1	

Manganese—

Genoa,	£20
Paint—	
Adelaide,	£67
Kingston,	27
St. Lucia,	32
Painters' Colours—	
Calcutta,	£181
Cape Colony,	29
Hong Kong,	85
Sydney, N.S.W.,	38
Dunedin,	244
Invercargill,	130
Taranaki,	14
Wellington,	70
Bombay,	20
Painters' Materials & Colours—	
Iquique,	£188
Paraffin Wax—	
Barcelona,	3 t. 3/4 c.
Genoa,	£105
Hiogo,	320
Italy,	31
Rotterdam,	3 t.
Nantes,	17
Pitch—	
Oporto,	£437
Penang,	20
St. Brien,	2 t.
Potash—	
Rotterdam,	£68
Potassium Bichromate—	
Barcelona,	15 t. 10 c.
U. States,	1 12
Saltpetre—	
Yokohama,	2 t. 3 3/4 c.
Soap—	
Algoa Bay,	3 t. 5 1/2 c.
Kingston,	14 12 3/4
Reunion,	2 1
Trinidad,	60 17
Sodium Bichromate—	
Barcelona,	10 t. 16 1/4 c.
Sulphuric Acid—	
Manila,	£21
Rangoon,	331
Tallow—	
Rotterdam,	4 t. 10 c.
Tar—	
Penang,	£25
Singapore,	05
Christiania, 50 brls.	
Rangoon,	32
Treacle—	
E. London,	£23
Pt. Elizabeth,	43
Christiania,	4 t. 16 c.
Verdigris—	
Victoria,	£21
White Lead—	
E. London,	£45
Montreal,	80
Auckland,	23
Taranaki,	46
Wellington,	75
Bombay,	

TYNE.

Week ending August 31st.

Alkali—	
St. Petersburg,	54 t. 11 c.
Hamburg,	5 9
Christiania,	5 8
Bergen,	2 17
Amsterdam,	16 8
Ammonia—	
Barcelona,	10 c.
Ammonium Sulphate—	
Terneuzen,	50 t. 5 c.
Antimony—	
Rotterdam,	5 t.
Barytes—	
St. Petersburg,	71 t.
Hamburg,	105
Bleaching Powder—	
Genoa,	10 t. 3 c.
Antwerp,	62 4
Christiania,	20 8
Bilbao,	9 19
Copenhagen,	20 1
Rotterdam,	25 17
Trondheim,	10 1
Amsterdam,	18 16
Gothenburg,	25 2
St. Petersburg,	262 11
Hamburg,	36 4

Caustic Soda—

St. Petersburg,	75 t. 3 c.
Hamburg,	29 16
Bilbao,	2 6
Copenhagen,	9 4
Rouen,	2 6
Rotterdam,	1
Valencia,	27 13
Amsterdam,	20 6
Gothenburg,	9 17
Colours—	
Genoa,	1 t. 4 c.
Ergasteria,	5
Lamp Black—	
Gothenburg,	4 t. 2 c.
Rotterdam,	1 14
Litharge—	
Antwerp,	2 t. 18 c.
Christiania,	12
Copenhagen,	1 7
Amsterdam,	3 10
Magnesia—	
Barcelona,	6 t.
Hamburg,	2
Antwerp,	1 c.
Copenhagen,	1
Paint—	
Antwerp,	1 t. 10 c.
Ergasteria,	4
Slag—	
Rotterdam,	193 t
Soda—	
Hamburg,	27 t. 17 c.
Porsgrund,	380
Frano,	290 8
Gothenburg,	220
Christiania,	10 14
Randers,	24 13
Copenhagen,	51 14
Rotterdam,	12 9
Valencia,	17 17
Amsterdam,	30
Soda Ash—	
Antwerp,	5 t. 6 c.
Frano,	52 5
Bergen,	5 3
Sodium Sulphate—	
Skutskar,	550 t. 1 c.
Sulphur—	
Antwerp,	10 t. 1 c.
Christiania,	150
Tallow—	
Genoa,	4 t. 3 c.
White Lead—	
St. Petersburg,	5 t. 6 c.
Ergasteria,	11

GOOLE.

Week ending August 28th.

Chemicals (otherwise undescribed)	
Bruges,	2 cks
Ghent,	1 dm.
Rotterdam,	20 dms.
Coal Products (otherwise undes.)—	
Boulogne,	50 cks
Ghent,	2
Hamburg,	25
Rotterdam,	37
Colours—	
Boulogne,	1 ck. 1 cs.
Hamburg,	1
Dyestuffs (otherwise undescribed)	
Hamburg,	137 cks. 55 bgs.
Rotterdam,	3 1 cs.
Manure—	
Boulogne,	108 bgs.
Hamburg,	145
Pitch—	
Antwerp,	126 t.

GRIMSBY.

Week ending August 31st.

Alkali—	
Dieppe,	1 ck.
Hamburg,	18 cs.
Chemicals (otherwise undescribed)	
Dieppe,	10 cks
Hamburg,	36 12 bts.
Coal Products (otherwise undes.)—	
Dieppe,	173 cks. 1 cs.
Colours—	
Antwerp,	2 cs.
Hamburg,	4 cks.
Rotterdam,	3
St. Thomas,	1 16 t.
Dyestuffs (otherwise undescribed)	
Dieppe,	2 cks.

PRICES CURRENT.

WEDNESDAY, SEPT. 11TH, 1893

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	& 9/-
" Glacial	"	10/-	
Arsenic S.G., 2000°	"	0	15 0
Fluoric	per lb.	0	0 3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
" (Cylinder), 30° Tw.	"	0	3 0
Nitric 80° Tw.	per lb.	0	0 1 1/2
Nitrous	"	0	0 1 1/4
Oxalic	nett	0	0 3 1/4
Phosphoric, 1750°	"	0	1 1
Picric	"	0	0 10
Sulphuric (fuming 50 %)	per ton	15	10 0
" (monohydrate)	"	5	10 0
" (Pyrites, 168°)	"	3	0 0
" " 150°	"	1	5 0
" " (free from arsenic, 145°)	"	1	6 0
Sulphurous (solution) S.G. 1025	"	3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric	"	0	0 11 1/4
Arsenic, white powdered	nett per ton	15	0 0
Alum (loose lump)	"	4	12 6
Alumina Sulphate (pure)	"	4	12 6
Aluminoferrie	"	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	"	0	1 3
" 88° = 28° B.	per lb.	0	0 3
" " = 24° B.	"	0	0 2 1/4
" Carbonate	nett	0	0 3 1/4
" Muriate	per ton	23	10 0
" " (sal-ammoniac) 1st & 2nd	per cwt.	39/-	& 37/-
" Nitrate	per ton	38	10 0
" Phosphate	per lb.	0	0 7 1/4
" Sulphate (grey) London	per ton	9	3 9
" " (grey) Hull	"	9	2 6
Aniline Oil (pure)	per lb.	0	0 5 1/4
Aniline Salt	"	0	0 4 1/4
Antimony	per ton	31	10 0
" (tartar emetic)	per lb.	0	0 7
" (golden sulphide)	"	0	0 10
Barium Chloride	per ton	6	7 6
" Carbonate (native)	"	3	5 0
" Sulphate (native levigated)	"	42	6 to 6 1/2
Bleaching Powder, 35 %	nett	6	17 6
" Liquor, 7 %	"	3	10 0
Bisulphide of Carbon	"	13	5 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	"	15/-	to 30/-

Coal Tar Products and Dyes:—

Alizarine (artificial) 20 %	nett per lb.	0	0 8
Magenta	"	0	3 9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0 11 1/2
Benzol, 90 % nominal	per gallon	0	0 11
" 50/90	"	0	0 11
Carbolic Acid (crystallised 40°)	per lb.	0	0 5 1/4
" (crude 60°)	per gallon	0	1 7
Creosote (ordinary)	"	0	0 1 1/2
" (filtered for Lucigen light)	"	0	0 2
Crude Naphtha 30 % @ 120° C.	"	0	0 5 1/4
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	"	1	15 0
Solvent Naphtha, 90 % at 160°	per gallon	0	1 0
" " " Lucigen" and "Wells" Oils	"	0	0 2 1/2
Copper	per ton	46	10 6
" Sulphate	"	16	15 0
" Oxide (copper scales)	"	41	10 0
Glycerine (crude)	"	16	10 0
" (distilled S.G. 1250°)	"	42	10 0
Iodine	nett, per oz.	0	0 9
Iron Sulphate (copperas)	per ton	1	5 0
" Sulphide (antimony slag)	"	2	0 0
Lead (sheet) for cash	"	12	2 6
" Litharge Flake (ex ship)	"	13	15 0
" Acetate (white	"	22	10 0
" " brown	"	14	10 0
" Carbonate (white lead) pure	"	16	0 0
" Nitrate	"	18	15 0

Lime, Acetate (brown)	per ton	5	7
" (grey)	"	8	3
Magnesium (ribbon and wire)	per oz.	0	1
" Chloride (ex ship)	per ton	2	7
" Carbonate	per cwt.	1	17
" Hydrate	per ton	17	0
" Sulphate (Epsom Salts)	per ton	3	0
Manganese, Sulphate	"	17	0
" Borate	per cwt.	2	13
" Ore, 70 %	per ton	4	5
Methylated Spirit, 61° O.P.	per gallon	0	1
Naphtha (Wood), Solvent	"	0	3
" Miscible, 60° O.P.	"	0	0

Oils:—

Cotton-seed	per ton	18	0
Linseed	"	22	10
Petroleum, American	per gallon	0	0
Stearine	per ton	24	0
Phosphorus (yellow)	per lb.	0	2
" (red)	"	0	2
Potassium (metal)	per oz.	0	1
" Bichromate	nett per lb.	0	0
" Carbonate, 90% (ex ship)	per ton	17	0
" Chlorate	per lb.	0	0
" Cyanide, 98%	"	0	1
" Hydrate (Caustic Potash) 80/85 %	per ton	11	5
" " (Caustic Potash) 75/80 %	"	19	13
" " (Caustic Potash) 70/75 %	"	19	10
" Nitrate (refined)	per cwt.	1	1
" Permanganate	per cwt.	2	17
" Prussiate Yellow	per lb.	0	0
" Sulphate, 90 % (ex ship)	per ton	9	15
" Muriate, 80 % (do.)	"	8	10
Silver (metal)	per oz.	0	2
" Nitrate	"	0	2
Sodium (metal)	per lb.	0	2
" Carb. (refined Soda-ash) 48 %	nett per ton	4	15
" " (Caustic Soda-ash) 48 %	"	3	17
" " (Carb. Soda-ash) 48 %	"	3	15
" " (Alkali) 58 %	"	3	12
" " (Soda Crystals)	"	2	2
" Acetate (ex-ship)	"	14	0
" Arseniate, 45 %	"	11	0
" Chlorate	per lb.	0	0
" Borate (Borax)	net, per ton	18	0
" Bichromate	per lb.	0	0
" Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	"	9	7
" " (74 % Caustic Soda)	"	8	7
" " (70 % Caustic Soda)	"	7	10
" " (60 % Caustic Soda)	"	6	10
" " (60 % Caustic Soda, cream) (f.o.b.)	"	6	7
" Bicarbonate	"	6	10
" Hyposulphite	"	5	10
" Manganate, 30%	"	10	0
" Nitrate (95 %) ex-ship Liverpool	per cwt.	0	5
" Nitrite, 98 %	per ton	29	0
" Phosphate	"	13	13
" Silicate (glass)	per ton	4	10
" " (liquid, 100° Tw.)	"	3	10
" Stannate, 40 %	per cwt.	1	2
" Sulphate (Salt-cake)	per ton	1	0
" " (Glauber's Salts)	"	1	5
" Sulphide	"	8	0
" Sulphite	"	5	5
Strontium Hydrate, 100%	"	8	10
Sulphocyanide Ammonium, 95 %	per lb.	0	0
" Barium, 95 %	"	0	0
" Potassium	"	0	0
Sulphur (Flowers)	per ton	6	5
" (Roll Brimstone)	"	5	0
" Brimstone: Best Quality	"	1	12
Superphosphate of Lime (26 %)	"	2	7
Tallow	"	22	10
Tin Crystals	per lb.	0	0
" English Ingots	per ton	68	0
Zinc (Spelter)	"	15	5
" Chloride (solution, 100° Tw.)	"	5	7

THE CHEMICAL TRADE JOURNAL AND OIL, PAINT and COLOUR REVIEW.

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5.

SATURDAY, SEPTEMBER 21, 1895.

Vol. XVII.

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THE ENGLISH PATENT LAW.

WE have so often expressed our opinion of the English Patent Law that we feel almost bound to apologise to our readers for again addressing them on this subject. But to leave the matter severely alone might be mistaken for acquiescence in the present order of things, so we once more range into line with the "continual dropping" and the "contentious woman," and in again drawing attention to the tissue of absurdity which envelopes our Patent Office, will select as our text an application for Letters Patent for "Improvements in process and apparatus for the manufacture of "chlorine," by Messrs. Sadler and Wilson, of Middlesbrough (15,886. August 21, 1894).

This application has gone through the provisional stages, and its complete specification has found acceptance. It is now open to the inspection of the public, and, if no opposition is entered by the 21st of October next, we suppose that Her Majesty will say in the ordinary course of things, that as Messrs. Sadler and Wilson have represented themselves to be in possession of this invention, and to be the true and first inventors thereof, Letters Patent shall be granted unto them for the same, and the expansive seal of the Patent Office affixed accordingly.

It must be clearly understood that we desire in no wise to impugn the *bona fides* of those who describe themselves as true and first inventors. For the purposes of our argument we are quite prepared to accept the good faith of those who seek to patent ideas and processes which have been stripped of every rag and tatter of novelty. Our object is rather to lodge an indictment against a Patent Office which is ever ready to pocket the inventor's fees, and to grant patents with equal freedom to the just, the unjust, and the ignorant, without the slightest guarantee of the value of the privileges professedly so granted.

In the case of the particular application before us, we propose to take each claim *seriatim*, and to show how in almost every instance the subject matter of the claim has been anticipated.

Claim 1.—"For the manufacture of chlorine, mixing nitric and "hydrochloric and sulphuric acid within a decomposer or column or "still, and in the same vessel heating the mixed acids by steam or "hot air pipes immersed therein, thereby driving off the chlorine "generated and other accompanying gases and vapours."

If, now, we turn to Pat. 13,822, July 29, 1892—"Improvement in the manufacture of chlorine," by H. W. Wallis—we may extract the following from the provisional specification:

"I place sulphuric acid in a still, and either drop into it from "above or pass into it from above below a solution of nitro- "hydrochloric acid. The greater part of the chlorine is formed "and expelled at once; but it may be necessary to apply heat to "complete the expulsion of the remainder."

In his complete specification Wallis proposes as an alternative to

"run all three acids simultaneously into the vessel in due proportions."

We shall not complicate our present inquiry by examining Wallis's claims to novelty, as it will answer our purpose to show that claim 1 of Sadler and Wilson's application had been anticipated about two years by the Wallis patent. But it is a significant feature of this anticipation that Messrs. Sadler and Wilson are connected with the syndicate that was formed to exploit the Wallis patent, so that if the validity of this claim 1 could be established, the effect would be in plain English to prolong the life of the Wallis patent by a couple of years.

Claim 2.—"For the manufacture of chlorine, a decomposer provided with partitions and suitably heated and arranged so that the acids as they traverse the decomposer are progressively freed from chlorine and other gases and vapours, and so that the liquid from which the gases and vapours have been separated is prevented from again mixing with the liquid which has not been so freed from gases and vapours."

It is interesting to read this claim in connection with Patent 12,074, June 20, 1893, A. Vogt and A. R. Scott, for "Improvements in obtaining chlorine," but as in the case of Wallis, we shall express no opinion as to the validity of the claims of Vogt and Scott.

From the provisional of this patent we extract the following:—

"Our invention consists in causing streams or currents of the three acids (nitric, hydrochloric, and sulphuric) to flow all in one direction through suitable apparatus whilst subjected to suitable heat. In carrying out our invention we employ apparatus made of or lined with lead or other not easily corrodible material, the apparatus consisting of a covered channel, which is horizontal or slightly inclined. . . . The channel may consist of a straight length or of a number of lengths connected at alternate ends to form a tortuous course, and the heat may be applied by means of a furnace with flues extending under the channel or channels."

Those who may imagine Sadler and Wilson's "decomposer" to have been already patented by Vogt and Scott are scarcely likely to have this impression removed by a closer study of the two specifications with the drawings attached. It is true that Vogt and Scott are—perhaps for good reasons—not very specific in their description of construction, but it is difficult to conceive how Sadler and Wilson's advances in this direction can be said to constitute an invention. The former speak of a "covered channel," of "not easily corrodible material," with a "tortuous course." The inventive genius of the latter suggests "clay slabs, quarls, bricks, stone slabs," for the non-corrodible material, and substitutes "cross divisions . . . to prolong the flow of liquid" for the "tortuous course;" and, moreover, they provide holes in the top of the decomposer for thermometers and pressure gauges.

Claim 3.—"For the manufacture of chlorine a decomposer constructed substantially as described of stone or burnt clay or like slabs with or without a leaden casing or with the bottom in one piece without joint below the level of the liquid."

The non-inventive mind may experience some little difficulty in discovering the necessity for this claim. Such an one would probably express his bewilderment in this way—The decomposer described in claim 3 either comes under the definition enunciated in claim 2 or it does not. If it *does*, there can be no necessity for specifically claiming it; if it *does not*, it cannot be employed usefully by the patentees. We notice, however, that in addition to stone and burnt clay, "like slabs" are mentioned as suitable building material. We do not know enough about these slabs to express any opinion as to whether the idea of using them has been anticipated, but when a decomposer is suggested, with a solid stone bottom hollowed out to contain the acids, we presume it is not intended to clash with Scott and Vogt's

"incorrodible material," and, if this be so, we are in complete accord with the later inventors.

Claim 4.—"For the manufacture of chlorine the method by which the operation is rendered continuous, viz., by the use of a series of mechanical feeders so driven by a line of shafting or other means as to operate in unison and supply in due relative proportion the different liquids required to the several parts of the apparatus."

The mechanical feeder, which is the sum and substance of this claim, is more fully described upon page 5 of the specification. Briefly it consists of a measuring cup series of cups, attached to a rocking shaft, upon the motion of which will naturally depend the number of times in a given period that the measuring cups are charged from one vessel and discharge themselves into another vessel. The arrangement seems to be a good one, but nevertheless we are bound to ask "What has it to do with the manufacture of chlorine?" It is purely and simply an arrangement for transferring given volumes of liquid from one vessel to another. It is just as suitable for mixing whiskey and water as for measuring out nitric, hydrochloric, and sulphuric acids. In our opinion the inventors would have established a claim to the exclusive use of the apparatus *per se*, before they could set up an exclusive claim to its application for measuring out the above named acids in the manufacture of chlorine. Otherwise we should be reduced to the absurd position that when any new process or manufacture might be introduced, it would be possible to patent the use of every vessel, tool, or material, no matter how well known, employed in carrying it on. We are not in a position at the moment to deal exhaustively with the question of this arrangement to novelty as an apparatus for measuring out liquids, but when one bears in mind that its efficiency depends upon the fact that the vessel from which the measuring cups are charged must itself be kept charged to a certain minimum depth, we see at once a strong resemblance to an old arrangement for transferring chlorate liquid wherein a plunger takes the place of the measuring cups, every movement of the shaft to which it is attached causing the displacement of an equal volume of liquor from a vessel kept always full. The reading of the claim in question somewhat calculated to give the impression that this particular arrangement is necessary for the production of chlorine to be a continuous one, but to concede this we must be ascribe to it an importance that can scarcely be included amongst its merits.

Claim 5.—"For the manufacture of chlorine, apparatus consisting of a decomposer, a mechanical lifter, and an evaporating pan so arranged, that the sulphuric acid having absorbed water from the decomposer is concentrated and returned into the decomposer."

To deal with this claim, we need only refer our readers again to the patent of Vogt and Scott, wherein is prescribed a decomposer, a pump, and an evaporating pan against a decomposer, mechanical lifter, and evaporating pan of the specification before us.

Claim 6.—"For the manufacture of chlorine, apparatus consisting of a decomposer in which the mixed acids are decomposed and chlorine and other gases and vapours are evolved, a condenser in which the gases are cooled, and vapours condensed and passed into the decomposer, a tower or like suitable apparatus by which the cooled gases are washed with sulphuric acid, and nitrous fumes removed and a tower or like apparatus by which the chlorine is washed with a small quantity of water and the residual hydrochloric acid returned to the decomposer."

This claim takes us back to what may now be considered ancient history, as the mode of separating the chlorine from the accompanying nitrogen compounds is exactly the same as described by Dunlop as far back as 1847, and added to

1884. It is true that a cooling arrangement is used by the inventors, but a glance at Scott and Vogt's will shew that this is merely an elaboration of the numbered 17 therein, or rather that what in the case of Vogt and Scott was a cooler, is here called a condenser, and amplified in its proportions. The main point at issue to us is that the blend of Wallis, and Vogt, with which we have up to now been dealing, is, as prepared for the market by the incorporation of a portion of Dunlop and Taylor, and the combination is a distinctive process. But, unfortunately for Adler and Wilson, both Wallis and Vogt and Scott are tacked on the Dunlop-Taylor appendage to their process, as can easily be seen on reference, so that their application cannot even be said to contain a combination of pre-existing patents.

7.—"The combination of apparatus substantially as described and represented in the annexed drawings."

It is yet to learn that if A take out a patent for a process, and B take out another patent for apparatus to conduct the said process—that C, by virtue of improvements in the vessels used to measure the liquids in the said process, is at liberty to avail himself exclusively of both the patents which A and B had taken out.

In the exception of a few minor details, it appears to us that the specification adds nothing to what was already known regarding the manufacture of chlorine, save that it is a neat and simple method of measuring the acids. The garniture of decomposers, evaporating pans, &c., etc., is just about as intimately connected with the substance of the "improvements" as is the bung hole of a beer cask, and we think it is just as rational for a man with a new vent peg to claim an improvement in the art of brewing as for the inventors of some measuring apparatus to deck their invention with the paraphernalia of a chlorine plant and their invention as "Improvements in process and apparatus for the manufacture of chlorine."

It remains to be seen if the applicants will obtain the relief they ask for, and Patent Office remain true to its traditions. In this case we must draw our readers' attention, however, to a point that is often overlooked, and those who may be amazed at the exceeding easiness with which the Office may be induced to itself, to read the reservations which appear opposite to all Letters Patent granted. We think they will come to the conclusion which we have long held, that the Patent Office system is nothing more than a State monopoly for imposing upon the unwary and unsuspecting public a system which can only be classed with missing competitions and schemes for the sale of foreign goods—and one which it behoves all who are interested in the development of the inventive genius of the country to strive to reform.

USE OF LIQUID AMMONIA ON BOARD SHIP.—The following notice issued:—The Board of Trade are advised that both the solution of ammonia and ammonia gas compressed into liquid should be classed as dangerous goods, not only on account of the danger of explosion involved when they are contained in vessels not strong to withstand the pressure which may be produced by the temperature, but also on account of the highly dangerous nature of the gas. The following precautions should be adopted when these liquids are carried on board ship:—It should be packed in casks which have been carefully tested up to a pressure of one square inch, and should be stored in a part of the ship free from the influence of any heat from boilers or furnaces, and remote from living quarters.

THE STATE OF THE CHEMICAL TRADES.

THE cement trade continues dull in the Wear and Tyne districts. There is fairly well doing in the calico-printing and dyeing trades about Burnley and Accrington. At Barrow, pulp and paper works are moderately busy. Things are reported as rather better at Widnes and St. Helens, several of the suspended processes having been re-started. At Winsford the salt trade has been normal, but outside the Union the demand is reported as better. Seed crushing mills are quiet, and trade bad in Hull district. The paint and colour trades are fair. In Derbyshire trade is good with colour mixers and paper stainers. Trade is satisfactory with oil, colour, and varnish makers at Wolverhampton, and full time is being worked. At Birmingham galvanisers and enamellers of all kinds are busy. The metallurgical and chemical industries at Swansea and in the South Wales district are still but dull, but there is an improvement in the patent fuel trade, which is stated to be good. With the approaching season it is likely to remain so, for a while at all events.

A NEW PETROLEUM OPEN-AIR LAMP.

BY direction of the War Office, Herr Ludwig Dürr, civil engineer, of Bremen, gave a demonstration of the utility for military purposes of his patent "Dürr light" lamp, at the School of Military Engineering, Chatham, on Monday night. The experiments were witnessed by Colonel Sir John C. Ardagh, Commandant; and the Royal Engineer Committee. Mr. Arthur S. Leupold, of London, son of Mr. Heinrich Leupold, late German Consul-General at Genoa, acted as interpreter. Sir John Ardagh conversed in German with Herr Dürr, who personally superintended the trials. The night was dark, and was consequently favourable for trustworthy tests. The lamp was first tried at a height of only a few feet from the ground, and the light was found to be sufficient to enable men to work in shops and at benches. It was then raised by means of guy ropes, &c., to a height of from 35 ft. to 40 ft., with the result that it made a very considerable area luminous. So brilliant did it light up the Royal Engineer Park that manoeuvres of troops, field works, and other military operations could have been carried out almost as readily as in the day time. At a distance of 120 yards small print upon a visiting card could be easily read; and when Herr Dürr fitted a special reflector to the lamp the light was made equally powerful at five times the distance. The portability of the apparatus was noted as a strong point in its favour with regard to military work. The Royal Engineer Committee next witnessed experiments designed to show the effectiveness of the Dürr light for field service.

It may be explained that the light is originated by automatic evaporation and over-heating of the vapours from ordinary petroleum. Air is drawn into the lamp between the gasificator and the external cylinder, and a smokeless flame of great brilliance is produced. In short, vapours from the petroleum (stored in a reservoir above the burner) are produced by intense heat and converted into gas, which, upon being burned, yields a light ranging from 3,500 to 14,000 candle power. The apparatus is self-acting and does not necessitate the employment of compressed air. It is so constructed that a lamp and reservoir capable of holding ten litres of petroleum, and supplying a 3,500-candle power light, can be strapped on to the knapsack of a soldier; and, what is more, the lamps can be carried about when burning or they can be fixed in any position required. The inventor claimed for the Dürr light that its strong white flame would be scarcely affected by the heaviest winds or rain; and, at the request of Sir John Ardagh, the reservoir was refilled with petroleum while the light was burning, without the least interruption to the experiment. The trials, which were the first that have taken place in England, tended to establish the Dürr light as an important auxiliary illuminant for military purposes. It would undoubtedly be of great value in innumerable instances in which lighting by electricity or gas is impracticable; and it has advantages over both these by reason of the facility with which it can be transported, handled, and brought into immediate use. In the embarkation or disembarkation of troops and the loading or unloading of stores on ships or transport waggons at night-time it would be of the greatest possible service.

The Dürr light is not absolutely a new idea in some respects, but the inventor seems to have overcome many of the difficulties and disadvantages which have marred the usefulness of other petroleum lighting apparatus, notably in the matters of noise, excessive weight, cost (both of lamps and in consumption of oil), and the employment of compressed air for working the lamps. The Royal Engineer Committee, after consulting together, congratulated Herr Dürr upon his scientific achievements, and the president, Sir John Ardagh, will report to the War Office in due course.

It is stated that the Dürr light has already been extensively adopted by the German and Russian Governments.

Official Memoranda.

(From the Board of Trade Journal.)

THE BARBADOS TARIFF.

THE following is an abstract of certain changes that have been made in the Customs tariff of Barbados:—

	Rate of Duty.
	£ s. d.
Candles other than tallow, per 100lbs.	0 8 4
" tallow	0 4 2
Cement, per barrel	0 1 3
Petroleum, per gallon	0 0 2½
Soap, per 100lbs.	0 1 3
Tallow, per 100lbs.	0 2 0

The following articles are admitted free from any duty:

Machinery Belting	Sugar Machinery
Bones and Horn	Ice-making Machinery
Explosives	Manure and Fertilisers of all kinds
Lime	Salt
Limestone	Tar and Pitch
Logwood	Resin

THE MANILLA OLIVE OIL TRADE.

The Manilla houses which import olive oil are those that sell all the food products coming from abroad, and which for the most part are consumed by the European population of the Philippines. Of the 8,000,000 and 9,000,000 of people who inhabit this archipelago, there are scarcely 25,000 Europeans or descendants of Europeans and Indians or half-caste. It is therefore on those figures that importers must regulate their orders for Spanish or foreign goods. Some have tried the experiment at various times of importing these goods in large quantities with the object of tempting the natives who reside in the town of Manilla and who are in contact with Europeans. This experiment has each time been attended with bad results, and the failure of a French house established there arose partly from this mode of business. In fact, the half-caste and Indians, after having tried the best food products of Europe, prefer the diet of the country to which they have been accustomed from their infancy and quickly return to it.

These general remarks lead to a special one as regards the consumption of olive oil. Spaniards form nearly the whole of the European colony of Manilla. They are usually civil or military officers with their families, to whom may be added traders and manufacturers established from time to time in the colony. Consequently the majority of these Spaniards have lived in the provinces of the Peninsula or the Spanish possessions of the Antilles and Philippines, and have preserved the taste for their national cookery, in which olive oil holds an important place. The olive oil as produced in Spain is very little refined and has a peculiar flavour, which is disagreeable to northern people but pleasant to Spaniards.

The result is that olive oil coming from the Peninsula is freely sold in Manilla, whilst the same oil prepared in France is only bought by Frenchmen or foreigners, and a small number of Spaniards who prefer it to the other.

The consumption of French olive oil is, therefore, very limited in these islands, and it is not to be wondered at that large orders are seldom given by Manilla merchants. It must be noticed, however, that certain oils, said to be olive and of French manufacture, which are found in the warehouses of Manilla, have undergone a process which makes them very unsavoury and drives the public away from their use.

PAPER-MAKING IN BOMBAY.

Hitherto the chief difficulty of the paper-making industry of Bombay has always lain in the cultivation of the right kind of grass for paper manufacture, but a Government resolution issued in July last contains a memorandum by Mr. Woodrow, the officer in charge of the Bombay Botanical Survey, which seems to indicate that this difficulty has been overcome. In Northern India there grows a special kind of grass known locally as *Sabai* or *Bhabur*, and scientifically as *Ischemum angustifolium*, which was brought to the notice of paper manufacturers some two or three years ago by Dr. King, the Director of the Botanical Garden at Calcutta. This grass has proved itself exceptionally adapted to the purpose of paper making, and but for the heavy railway freight would doubtless have met with an active demand on this side. Experiments conducted at Poona, however, have shown that *Sabai* will grow freely on a variety of soils; and though it has been slightly irrigated so far in order to increase the quantity available for seed purposes as quickly as possible, there is, says Mr. Woodrow, "every reason to believe that it will grow without irrigation, and that it will soon become an important export material, taking the place in the paper manufacture of Europe of the fast failing supplies of Esparto." The

Survey Commissioner, in communicating the fact that the Deccan Paper Mill has already obtained a concession of half the fixed irrigation rate for growing *Sabai* grass experimentally for five years on 50 acres of land, observes that "the Deccan ryot, who has got many more valuable crops to grow with irrigation if he can afford to do so, is not likely to go in for *Sabai* cultivation unless there is an active demand for it either from the local paper manufacturers or from foreign shippers." We suspect that it will be some time before the foreign shippers will be induced to inquire for *Sabai* in any large quantities, but the experience of its excellence elsewhere should certainly lead to a considerable development in the local paper trade. At any rate, the experiment will be watched with considerable interest, for if *Sabai* is a success there would seem to be no *prima facie* reason why the paper-mill industry should not be as active in Bombay as on the Bengal side.

TRANSPORT OF LIVE FISH BY RAILWAY.

In a communication from Dusseldorf to the *Moniteur Officiel de Commerce* it is stated that attempts to transport living produce of sea fisheries by railway have just been renewed at Cologne, the difficulties met with in previous attempts having been overcome. Success could only be obtained by carrying the fish in sea water constantly in motion, by keeping up a continual current of oxygen through the water, and by isolating by means of filtration the excretions of the fish; a reservoir was constructed fulfilling these conditions, in which a quantity of cod, soles, plaice, turbot, and other fish were successfully transported from the Dutch coast to Cologne, arriving alive and in excellent condition. Other waggons, fitted with all the necessary apparatus, are about to be constructed in order to renew the experiment on a larger scale.

TIPS FOR TRADERS.

ONE of the chief industries of Bulgaria is the preparation of otto of roses. The average annual crop is about 2,000 kilogrammes. The centre of the industry is at Kezanlik.

CHROME IRON ORE is found in Asia Minor, which contains on an average 50 % of chromium sesquioxide. Some samples contain over 53 %. The value per ton in England is about £4 13s. 0d. The cost of mining is low, wages varying from 8d. to 10d. per day, according to the season of the year.

BONES may be exported from Morocco in accordance with a permit issued by the Sultan for a period of 90 days, commencing on the 20th inst. Particulars can be obtained from Her Majesty's Consul at Tangiers.

SAFFRON trade, which is almost wholly confined to Spain, shows a considerable falling off during the past two years. The returns at Valencia, where the bulk of the trade is concentrated, shows a decrease of about 50 % in the amount sold in 1894, as compared with the previous year.

TARIFF CHANGES.

There are from time to time many alterations in the Customs regulations abroad, which it is well for those trading in chemicals, oils, paints, and raw materials to be acquainted with. The following are some of the most recent changes of interest to the foregoing:—

COLOURS, such as white and red lead litharge, are to be freed from duty under the Belgian-Grecian Commercial Treaty.

SALICYLATE of SODA will, under the French tariff, have to pay the tax on alcoholic consumption on the basis of 75 centilitres of alcohol to one kilogram of salicylate.

RAW SHALE OILS and vaseline have under recent changes in the Spanish Customs dues had the import duty raised to 30 pesetas per 100 kilos. The duty of the refined oils, such as petroleum, also gasoline and benzine, has been raised from 40 pesetas to 42 per 100 kilos. The special tax on the fabrication and consumption of petroleum will be collected direct from the refineries.

CHROME IRON imported into the United States of America is dutiable at 20 per cent. under Section 3 of the 1894 Act.

PAINTS, varnishes, &c., under the revised Canadian Customs tariff, are now dutiable at 1 dollar 12½ cents instead of 1 dollar as formerly.

A LARGE NAPHTHA SPRING—According to information received from Grosni, in the Greek territory, a fresh naphtha spring has opened there. The jet is of immense height, and will discharge nearly thirty million poods (36 lbs. each) of naphtha daily.

DRUG, CHEMICAL, AND ALLIED TRADES EXHIBITION.

CHEMICAL EXHIBITS.

We have already stated, there was a paucity of exhibits closely connected with the chemical and allied trades pure and simple, among the more prominent firms the following were represented.

JEYES' SANITARY COMPOUNDS CO., LTD.

ed their Fluid, a sanitary coal tar disinfectant, non-poisonous; Sanitary Powder, a dry disinfectant for cellars, floors, outhouses, creolin, a refined preparation of Jeyes' Fluid; Lano-Creolin ant, in collapsible tubes, for wounds, eczema, and skin affections, anointing the fingers in examinations; Creolin Surgical Powder, tute for iodoform; Creolin Gauze, made with the finest bleached and impregnated with 10 per cent. of creolin, and used as a ute for iodoform gauze; Creolin Surgical Soap, for disinfecting ds before and after operations, etc.; Creolin Capsules, for use; Disinfectant, Household, Toilet, and Fancy Soaps in all s; Symphorol (caffeine-sulphonic acid), a new diuretic, manu- l by Messrs. Meister Lucius and Brunning, increases urinary n without producing secondary symptoms. They also exhibited ew medicinal preparations for the first time—Jeyes' Soluble an active germicide, giving with water clear solutions, and otherwise all the properties of Creolin and Jeyes' Fluid; Lano- for the toilet; Migraine, a new double salt of antipyrin and , useful in migraine, sick-headaches, and neuralgia complaints; e, a new solvent of uric acid; Carniferine, an iron salt of o-carnic acid, recommended in anaemic conditions, particularly to its non-disturbance of the digestion; the Indispensable itic Toilet Box and Paper, useful in the interest of hygiene and ion of infection; Nosophen (Tetra-iodophenophthalein), a new m substitute manufactured by the Chemische Fabrik Rhenania; sine, a soluble sodium salt of nosophen, for washing wounds ities, and eudoxine, a bismuth salt of nosophen.

THE SANITAS CO., LTD.

good display of their excellent disinfecting liquids, powders, er similar preparations, such as sulphur candles, fumigators, oil, etc. Among their latest novelties were the Sanitas pocket ant, Sanitas shaving stick, and Sanitas Eucalyptus soap, an at disinfectant as well as a good soap. There was a liberal ent of the various sizes and forms in which the well-known fluid (non-poisonous) is purveyed.

RS. WERNER, PFLEIDERER AND PERKINS, LTD.,

he following exhibit of machinery at work:—One size 14 ersal" kneading and mixing machine, type VII., class BS, for g, paints, powders, etc., capacity 3 cwt.; one size 12 ditto, , class BB, for paints, putty, pillmass, etc., capacity 1 cwt.; e 11 ditto, type II., class BB, for paints, putty, pillmass, etc., y ½ cwt.; one size 11 ditto, type III., class BS, with fast and eeds for fondants, cocoa, etc.; one size 8 ditto, in gun metal, nge paste; three size 8 ditto, in iron, with hot or cold water for rubber solutions, cements, gums, liquorice, gunpowders, etc.; e 6 ditto for ointments, etc.; one size 4 ditto, type II., class BB, nd and power, for pillmass, etc.; one size 4 ditto, for hand, for ss, etc.; one size 14 masticator for indiarubber and gutta-percha; e 3 "Universal" kneading and mixing machine, type I., class BB, nd for pillmass, etc.; one size 1 "Spiral Brush" sifting machine, nd power; one size 3 ditto; pill rounders for power, pill coaters, and cutters, American casters of all sizes for trucks, tables, etc., ber similar requisites for the chemical and allied trades.

MESSRS. FORBES, ABBOTT, AND LENNARD

an exhibit in which "Vitos," a water-soluble disinfectant and tic, figured prominently. This preparation is admirably adapted in all climates, will not freeze, neither is it impaired by extreme Users of disinfectants are warned against numerous preparations e sold as genuine disinfectants, but which are absolutely useless at purpose. The firm guarantee that "Vitos" is a perfect etant, antiseptic, and deodorant, and that it is more powerful ure carbolic acid. The proprietors will forfeit £100 to any barity if this statement can be proved to be untrue. "Moethica" her useful preparation. It is a most effectual safeguard against vages of moths and other insects in furs, blankets, wearing d, and all kinds of textile fabrics. Being prepared in a light orm, is more easily distributed than camphor. It retains all its ties unchanged in any climate, contains neither oil, acid, nor ill not injure the most delicate fabric, and evaporates, leaving due. Fabrics which have been impregnated lose their odour in t time on being exposed to the air. Phenylated fibre being a

preparation containing 25 per cent. carbolic acid constitutes another useful disinfecting powder. At the same stand the Standard Ammonia Company exhibited some of their ammonia compounds for toilet and household use. Standard Household Ammonia will be found very useful in the laundry, especially for washing flannels without shrinking

IMPORTANT PETROLEUM FATALITIES.

ON Saturday last, at Guy's Hospital, Mr. A. C. Langham, deputy-coroner for Southwark, held an inquest on the body of Ada Alice Thorne, aged 20 years, a single woman, who was fatally injured in a fire that occurred at the residence of her parents, No. 2, Floraterrace, Elstead-street, Walworth, in consequence of the explosion of a petroleum lamp. Charlotte Thorne, of 2, Floraterrace, a sister of the deceased, deposed that on the night in question they were sitting at a small table at supper when a small paraffin glass lamp exploded, and before witness realised what had happened her sister's right arm was a mass of flames. Eliza Cole, aunt of the deceased, who resided with her, said that on the same afternoon she filled the lamp with a pint of petroleum oil. The lamp was not cracked and at night must have been half full of oil. The wick of the lamp was of proper length, and the burner was perfectly clean. Henry Clarke, a labourer, of Floraterrace, stated that on hearing of the fire he rushed up the stairs with his coat in his hand and seizing the deceased, who was in flames from head to foot, he succeeded in smothering the fire. Dr. Taylor, of Guy's Hospital, said that he found the deceased on her admission suffering from extensive burns. She died the next morning. The Coroner said it was a lamentable fact that hundreds of persons lost their lives through the use of cheap lamps, and, in returning a verdict of "Accidental death," the jury recommended that the Legislature should make it a criminal offence to sell cheap china and glass lamps.

And why not indict the oil suppliers too?

Mr. Wynne E. Baxter, coroner for East London, held an inquiry at the Poplar Town Hall into the cause of the death of Edith Lillian Luker, aged seven years, daughter of a lighterman living in Blair-street, Bromley, who met her death through the explosion of a petroleum lamp. Florence Luker, aunt of the deceased, stated that early on Wednesday morning, 11th inst., deceased rushed out of her bedroom with her clothing enveloped in flames. She cried out on seeing witness, "Oh, Auntie Florrie, don't cry, I have done it, but I could not help it." Witness endeavoured to extinguish the flames, but deceased, rushing into the street, was seized by a foot passenger, who immediately took her to the hospital. Dr. Sutton said that he examined the child on her admission to Poplar Hospital. She was burnt all over the body and died soon afterwards from shock. Before death deceased said, "I didn't touch the lamp. I was standing by the lamp when it went off." Colonel Rudd said that he was an inspector of the London County Council under the Petroleum Act. He had examined the room and the lamp in question. A Juror: Is the lamp a safe one? The Inspector: No; it is a lamp of very common make and exceedingly dangerous. Witness further said that lamps of such description had during the last twelve months been responsible for the loss of no fewer than 300 lives. The jury returned a verdict of "Death from accidental causes," adding as a rider the request that the authorities should take immediate steps to prevent the sale of dangerous lamps.

THE SALT TRADE.—Salt Union shares, both preference and ordinary, have considerably improved during the week, and the cause of the movement is an agreement among the makers to advance prices. A meeting took place at Winsford, Cheshire, recently, when the Salt Union agreed with a small section of the trade to put up the prices of salt. This will benefit the Salt Union very considerably and the outside makers to a more moderate degree.

THE STANDARD OIL COMPANY AGAIN.—The influence of a gas trust upon education is not, at the first glance, quite intelligible; but it seems to have had the effect of turning Professor Bemis out of his academic chair at Chicago University. The professor taught certain doctrines of political economy which ran counter to the interests of the gas trust, which, by common report, is sustained by the Standard Oil Company, while the Standard Oil Company, in turn, is sustained by Mr. Rockefeller. Mr. Rockefeller may be said to sustain the university. At any rate, that man of many dollars endowed it. Now, Mr. Rockefeller and his colleagues are said to control the gas supply in over forty cities, and they were aghast—so the story goes—at the audacity of a professor who expounded theories adverse to the system of trusts and monopolies. They refused to let the university have gas at cheap rates while Professor Bemis held authority there, and when that stern and extremely logical warning failed of effect it was plainly intimated that Mr. Bemis must go; and he went. All of which is highly instructive, and shows that the "almighty" dollar is not a mere figure of speech at Chicago.—*Financial News*.

Our Book Shelf.

A LABORATORY MANUAL OF ORGANIC CHEMISTRY. By Dr. Lassar-Cohn. Translated by A. Smith. 403 pp., with index. 42 woodcuts in text. London: Macmillan and Co. 1895. 8s. 6d.

This work is in no wise a text-book, but a practical laboratory manual in the fullest sense of the latter word.

The majority of text-books of organic chemistry are lamentably deficient in the practical definition of even the most generic operations. Many of the typical reactions and synthetical processes are, to all appearances, simplicity itself, but the average student is strangely at sea when he first tries to put into practice the theoretical knowledge acquired. The theoretical production of an ester is very simple indeed, but the student soon finds that certain conditions must be rigidly adhered to if the preparation is to be satisfactorily conducted.

In this work a careful description is given of the uses of all the general reagents and methods, in addition to a number of typical specific examples. The student and general worker is provided with a summary of processes which can be adapted to individual requirements, rather than a description of the exact preparation of a prescribed number of bodies. Part I. deals with general and chiefly physical methods, such as crystallizing, discolourizing liquids, distillation, extraction, drying solids and liquids, filtration, determination of melting points and molecular weights. The illustrations in this section are good, more or less original, and decidedly suggestive. Part II. is concerned with special methods, dealing more particularly with the preparation of Diazo-bodies, esters, condensation, oxidation, and reduction products. Chapter XX. is a very useful and interesting one, relating to the preparation of salts and their analysis, being followed by a short chapter on saponification and saponifying agents. The last and twenty-third chapter treats of organic analysis, more particularly the quantitative determination of nitrogen, chlorine, iodine, bromine, and sulphur. This book, which is admirably got up, is one of the most useful of recent additions to the English literature of organic chemistry, and will be found invaluable to every practical student or chemist engaged in organic work.

EVAPORATION BY THE MULTIPLE SYSTEM. Second Edition. By J. Foster. 759 pp. 181 diagrams and 49 plates. Sunderland: Thomas Reed and Co. 1895.

This work is a very useful compilation of information relating to multiple evaporation. Though chiefly designed to suit the requirements of sugar boilers, it contains much of interest to anyone employing the multiple effect principle. In most works that deal with this method of evaporation, very little, if any, detail is ever given. The work in question is, however, a mass of detail, and a well-compiled and useful mass, too. Particulars are given for the construction and working of all classes of multiple evaporation plants, with special references to their adaptability to sugar manufacture. The book is profusely illustrated, and though the cuts answer well their purpose, they are not, unfortunately, of a very high order. At the end a number of complete specifications, with drawings of relevant patents, are appended. The book is essentially a practical one, and is likely to be of material assistance to those who, having a moderate acquaintance with the subject, desire fuller information. To the uninitiated, it will prove too technical. This, however, is an advantage rather than a drawback, and the statement constitutes the best recommendation to technologists that the work can have. The metrical system is used throughout.

CHEMISTRY INORGANIC AND ORGANIC. By C. L. Bloxam. Eighth edition. Re-written and revised by J. M. Thompson and A. G. Bloxam. 848 pp., including index. 280 woodcuts. London: J. and A. Churchill, 1895. 18s. 6d.

The eighth edition of this well-known work presents quite a new appearance, and has been improved in many directions. Its aim as a comprehensive one—text-book of organic and inorganic chemistry, manual of practical chemistry and work of reference, in one volume, is a large undertaking in the present state of chemical literature. The various objects are attained in large measure by the aid of two types and careful arrangement. The text book portions, pure and simple, are in large type, enabling the elementary student to discern and select at once what is essential, and what is desirable. Of these portions there is no need to speak specially, save to mention that they have been carefully revised. In the small type portions, in addition to the more abstruse theoretical considerations which may naturally be expected, there are interesting references to the preparation of *acetylene*, the chemistry of photography, the formation of bleaching

powder and its constitution, and the extraction of gold. On the latter subject there is a striking absence of anything like even a brief description of the important cyanide processes. The inorganic part is chiefly by a description of some of the more important applications of chemical principles, such as the manufacture of glass, pottery, stoneware, cements, mortars, gunpowder, etc. In the organic part we find a brief but interesting review of the explosives which form their basis the so-called nitro-glycerine compounds, the manufacture of gun-cotton, polarization, and even the latest addition, At. The descriptions of the industries in which organic chemistry is applied, and with which the work ends, are most useful, and particularly interesting, when such questions as the chemistry of the ripening fruit, etc., are discussed. As we have already said the book is tenuous in its claims, but as a whole it can be confidently recommended as one of the few successful attempts at a compendium of chemistry for the purposes of education and reference.

PRINCIPLES AND PRACTICE OF AGRICULTURAL ANALYSIS. I. W. Wiley. Vol. I. 607pp., with index, 93 woodcuts, and plates. Easton, Pa., and London: Chemical Publishing Company, 1895.

The first volume of this work consists of eight parts, and deals with soils. The first four parts have already been reviewed in these columns so there is not a great deal further to be said about the four additional parts that now appear. The book is very nicely printed and got up with illustrations and plates being exceptionally good, particularly the last. The chemical analysis of the soils is the main theme of parts 5 to 8, a very complete *résumé* of the numerous methods suggested for determination of nitrogen. Prominence is given to American methods but the author's preface tempers any complaint that might be made on this score. Judging by the contents of this volume, it is an excellent one of good things to come. The revised chemical spelling is at rather trying.

GUIDE TO INCOME TAX LAW AND PRACTICE. J. Affleck, 179 pp., including Index. Manchester: Income Tax Agency, 1895. 5s. nett.

This book enables full advantage to be taken of the recent changes in the Finance Act of 1894. It gives a succinct epitome of a points connected with the making of special returns, abatements, exemptions, and repayment claims; also particulars as to the conditions of the law in regard to limited companies, lawyers, doctors, land travellers, &c., with many examples of exemption cases. The book is well worth reading, and has an excellent index. It is almost impossible to realise before looking through this book how numerous are the cases in which superfluous taxes can be and are paid.

PRICE LIST OF CHEMICAL APPARATUS. C. Gerhardt. 272 pp., 3,436 illustrations. Bonn-a-Rhine, 1895.

This is a well-compiled and illustrated catalogue, containing a selection out of the way but convenient pieces of apparatus. There are very good sections on microscopical, bacteriological, and milk-testing apparatus. There is also a wide selection in heating, mixing, and distilling, and expressing appliances. The chemico-physical section of the catalogue in fact is strong. There is practically no electro-chemical apparatus which we should think now might rank of sufficient importance to claim a section for itself.

REPORT OF THE MITCHELL LIBRARY. 65 pp. Glasgow, 1895.

This Report deals with the progress of this Library during the years 1892 to 1894 inclusive. The library appears to be in a thriving condition, and to be rendering important service as an educational institution as well as a source of lighter reading. There are now over 110 volumes in the library, as compared with 90,537 at the end of 1891. Although occupying larger rooms, the accommodation is already more proving deficient. Among many improvements, the change of ventilation, and the provision of automatic sprinklers in the case of fire, figure chiefly.

REPORT OF THE MANCHESTER AND SALFORD SANITARY ASSOCIATION FOR 1894. 61 pp. Manchester, 1895.

According to this Report, the statements that were made in the Spring, at the Sanitary Congress, as to the progress of sanitary work in Manchester and district, do not appear to have been exaggerated. The Report the progress of three affiliated Societies is also recorded. These are the Ladies' Health Society, the Noxious Vapours Abatement Association, and the Committee for securing Open Spaces for Recreation, all of which show signs of healthy activity.

The Patent List.

This list is compiled from Official sources in the Manchester Laboratory, under the immediate supervision of J. Davis and Alfred R. Davis, who report professionally on the value of Chemical Patents.

SPECIFICATIONS FOR ENGLISH LETTERS PATENT.

R. Wolfenstein 16,368. September 2.
Pigments. K. Denys. 16,398. September 2.
Sulphides and Sulphydrates of Alkaline Earths, etc. H. Loesner. September 2.
J. Galloway. 16,448. September 3.
Smoke. W. Minshall. 16,458. September 3.
for Producing and Utilising Acetylene. E. Ducretet and L. 16,502. September 3.
Sewage. Serge de Petroff. 16,544. September 3.
Sewing. J. E. Robinson. 16,535. September 4.
n of Carbides and their Compounds. J. B. Torres. 16,563. September 4.
Machine for Oleaginous Materials. G. Mitchell. 16,571. Sept. 4.
re of Gas Cylinders. G. Hookham. 16,587. September 4.
Indiarubber, Rosins, etc. J. B. Torres. 16,615. September 5.
Precious Metals from Solutions. J. S. McArthur. 16,634. September 5.
ents in Centrifugal Separators. O. B. Peck. 16,652. Sept. 5.
ents in Centrifugal Separators. O. B. Peck. 16,653. Sept. 5.
ents in Paint and the like. J. D. Ross and A. Heiron. 16,656. September 5.
of Liquids. W. J. Lomax and C. J. Lomax. 16,693. September 6.
Gold and Silver from Cyanide Solutions by Electricity. 16,736. September 6.
Gold and Silver from Cyanide Solutions by Electricity. 16,737. September 6.
Hair, Wool, and other Combing from Pitch, Tar, etc., by Chemical Means. W. Fairweather. 16,766. September 7.
re of Zinc Oxides. T. A. De Wolf and W. A. Harper. 16,778. September 7.
Economically Steam or a Mixture of Air and Steam for use Producers. L. Mond. 16,781. September 7.

ACTS OF LATEST COMPLETE SPECIFICATIONS.

Abstracts are specially prepared for the Chemical Trade Journal. RIGHTS of publication are RESERVED. This is the earliest abstracts of Chemical and allied patents accessible to the

ents in Process and Apparatus for the Manufacture of Chlorine. J. H. Wilson. Cleveland Chemical Works, Middlesbrough. 15,886. August 21, 1894.

of feature is the arrangement of the apparatus by which the hydrochloric acids are decomposed in the presence of acid, and the evolved gases purified. The mixed acids are automatically in measured quantities to a specially constructed vessel, heated by leaden steam coils. The weak sulphuric acid is conveyed to a concentrator and flows back by gravitation to the decomposer. The evolved gases are passed through a dephlegmator and a series of suitably cooled condensers to a sulphuric acid tower, where the nitrous gases are removed to be subsequently as nitric acid in the usual way. The chlorine gas then passes through a water-scrubber, removing hydrochloric acid, chlorine escapes to the chambers. The water and acid are automatically fed with measured quantities of water and acid, the power for both the decomposer and scrubber feeding being obtained from the same shaft, so that if the decomposition is accelerated the scrubbing capacity is proportionately increased.

The condensing and scrubbing plant is arranged at such a height that the condensed products, and the nitrous vitriol, can be directly to the decomposer and denitrating apparatus by gravitation.

ents in or Relating to the Obtaining of Precious Metals from Solutions. H. L. Sulman, 60, Gracechurch-street, London. Eng. Pat. 18,146. September 24, 1894.

Ordinary "zinc box" method of treating cyanide solutions of silver for the recovery of these metals the consumption of zinc is very high, and the cyanide solution at the same time seriously injured by the formation of a soluble double cyanide of zinc and silver.

In this patent the zinc is added to the solutions, preferably out of the air, in the form of very fine particles such as is known as "zinc dust," and which will pass a sieve of 40,000 meshes to the fine. The "fume" can be added direct with gentle agitation, or in water, when the addition of this current of water produces of itself sufficient agitation. When special mechanism is employed it must not be sufficiently violent to cause the zinc to settle. In this way 4 dwts. of gold per ton of liquor can be precipitated with 8 to 12 dwts. of "fume." The gold precipitate readily settles and falls in "flocks," so that in a short time the supernatant liquor can be removed by decantation.

Improvements in or Relating to the Recovery of Precious Metals from their Ores. H. L. Sulman, 60, Gracechurch-street, London, E.C. Eng. Pat. 18,146. September 24, 1894.

This patent deals with the treatment of ores with cyanide and the precipitation of the metals with zinc fume, precisely in the manner described in patent 18,003, 1894. The invention particularly relates to the combination in one process of the two separate treatments. Otherwise, there is no material difference from the methods specified in the patent just cited.

Improved Process for Facilitating the Disintegration of Thomas Slag. E. Meyer, 47, Lessingstrasse, Berlin. Eng. Pat. 24,092. December 11, 1894.

It is proposed to add alkaline silicates or carbonates to the slag, while in a molten state, in the proportion of 5 to 15 per cent., resulting in the disintegration of the slag. The effect is still further increased by the addition of reducing substances such as carbon, which reduce the iron in the slag from the ferric to the ferrous state. The proportion of the reducing substances should be from 8 to 20 parts for every 100 parts of iron in the slag as ferric oxide.

RIVER POLLUTION INQUIRIES.

At Compstall Bridge, near Marple, on Wednesday, Mr. Rienzi Walton, Local Government Board Inspector, held an inquiry touching the application of the Mersey and Irwell Joint Committee for leave to take proceedings against Messrs. George Andrew and Sons, for alleged offences under the Mersey and Irwell Joint Committee Act, 1892. Mr. W. H. Wilson appeared for the Joint Committee, and the defendants conducted their own case. It was alleged that the defendants, who own the Compstall Mills, Compstall, near Stockport, are polluting the river Etherow by discharging into it manufacturing waste from their premises. The defendants admitted this, but pleaded for further time in which to make the necessary arrangements for stopping the pollution.—A similar inquiry was held in the afternoon at Edgeley, near Stockport, by Mr. Walton, arising out of the alleged pollution of the river Mersey by Messrs. Sykes and Co., bleachers, of Edgeley. Mr. Wilson again appeared for the Joint Committee; the defendants were represented by Mr. E. H. Lloyd, barrister, Chester, and the interests of the Cheadle District Council and the Stockport Corporation were watched respectively by Mr. Brown, solicitor, and Mr. Dobson (the deputy town clerk).—Mr. Wilson, in support of the application, said that the defendants were causing an obnoxious and polluting liquid to flow into the river Mersey. Messrs. Sykes were carrying on business at Edgeley as bleachers, and for the purposes of their business they, or their predecessors, culverted over portions of an ancient brook. Portions of that brook were still open, and portions of it were culverted. Certain additions to and connections with the culvert had, from time to time, been made by the Cheadle District Council and the Stockport Corporation. The result was that a considerable amount of sewage matter came into the culvert. This sewage matter came first through the sewers constructed by the Cheadle and Gatley District Council, and then through portions of the area under the jurisdiction of Stockport, then again through a further portion of the Cheadle district, and finally emptied itself into the river Mersey near the new Stockport sewage works. He understood that Messrs. Sykes would plead that the culvert was a sewer within the meaning of the Public Health Act.—Mr. Lloyd said it might be taken at once that his clients admitted the discharge of the effluent into what they called a public sewer, and for which, he submitted, they ought not to be prosecuted.—Mr. Wilson said his case was that Messrs. Sykes discharged into open water, culverted in some places, the polluted water coming from their premises. He then called the inspectors of the Joint Committee to prove that the effluent was obnoxious, and that the defendants had no works for its treatment.—Mr. Tatton (the chief inspector) said that although the defendants had no plant for treating the effluent, they had land convenient for the purpose.—Mr. Brown called evidence to the effect that the channel under consideration was a private one, and was not the property of the Cheadle District Council, who, in his opinion, had no responsibility for it.—Mr. Lloyd, on the other hand, argued that the sewer was not the property of his clients.

SMOKE AND FUMES ANNIHILATOR CO., LTD.—A general meeting of the shareholders of this company was held on Wednesday at Cannon-street Hotel, E.C., to present the financial accounts of the liquidator.—Mr. J. Satchell Hopkins presided, and stated that the whole of the money paid in by the allottees had been returned, with the exception of 4s. per share. Out of that 4s. per share, after paying all expenses, a balance of £9. 8s. 3d. remained in hand, which he had paid over to Mr. Arnold, the secretary, for the trouble he had been put to from the date of the liquidation to the present time. The Chairman then moved the adoption of the accounts, which was seconded and carried.—A resolution was subsequently passed authorising the liquidator to keep the books and accounts until the time required by the Act.

Trade Notes.

THE AFRICAN GOLD RECOVERY CO.—On Wednesday, the directors of this company declared a dividend of 10 per cent., free of income tax, payable on the 28th October, to all shareholders on the register on the 12th October, after passing £40,000. to the reserve fund, making this £100,000., and carrying forward about £37,000. The Board propose to issue the 25,000 unissued shares *pro rata* to shareholders at 33s. per share.

NEW USE FOR BORAX.—Experiments are still being tried in preserving fresh fruit in borax. It has been found perfectly successful with cherries, and is now being tried with vegetables. It is anticipated that should results be favourable a borax tin, in which fruit, vegetables, and other perishable forms of food can constantly be kept, will form part of the household equipment of every family. Borax can be used over and over again, so that economy is secured in a double fashion.

THE HOME SECRETARY AND DANGEROUS LAMP OILS.—Sir M. W. Ridley's attention having been drawn by Mr. William Johnston, M.P., to the extraordinarily large number of deaths during the past few months from petroleum lamp explosions, the Home Secretary writes:—"I am certainly favourable to the re-appointment of a Select Committee on these dangerous oils and lamps, and hope it may be found practicable to start it again next session. Legislation without the advice of the committee is, I think, in this case, well nigh impossible."

THE HISTORY OF BEET-SUGAR.—As an industry the production of beet-root sugar has a curious history. It originated in France under Napoleon I., when the English blockade prevented communication with Martinique and Hayti. It grew rapidly after emancipation of the slaves in the British dominions, and, being fostered by the protectionist governments on the Continent, it is now beginning to drive the poor, antiquated, and superannuated cane entirely out of the market. Of recent years by far the largest part of the sugar used in England is of French origin, or made in Germany.

THE SHALE MINERS' DISPUTE.—The Scotch oil companies' managers have had private conferences with the shale miners' representatives, and, as a result, it is almost assured that the miners will postpone the demand for the 1s. advance until the end of the financial year. The managers showed that while oils had advanced and the prospects were better, the gain had been wholly neutralised by the loss in the value of sulphate of ammonia, computed at £120,000., on the year's production. On Monday, however, at a private meeting of the Scotch Mineral Oil Trade Association in Glasgow, the policy threatened by the shale miners of Scotland of only working four days a week was considered, and it was unanimously resolved that should this policy be adopted the oil companies in Scotland should close their pits and mines at once.

OBITUARY.—*Dr J. M. Fox.* We regret to chronicle the death of this well-known sanitarian. Dr. Fox was in his 64th year, and had for nearly 18 years occupied the post of medical officer of health for the Mid-Cheshire District. Since his appointment many sanitary improvements have been effected, particularly in connection with the water supplies and the disposal of sewage.—*Mr. Herbert Fletcher.* By the death of this ardent worker those who are interested in the suppression of black smoke have lost a most valuable ally. Mr. Fletcher was a member of the Lancashire County Council, and for ten years sat in the Bolton Town Council, where, as a member of the Sanitary Committee, he never missed an opportunity of urging his views on, and pleading the cause of smoke prevention. His death is not only a loss to the borough but to the county.

GOLD PRODUCTION.—Jumpers: Results for August—crushed, 10,622 tons; obtained from mill, 4,656 oz. of gold; from concentrates, equal to 773 oz.; from tailings by cyanide, 1,650 oz.; total, 7,079 oz. Porges-Randfontein: Ore crushed, 6,557 tons; gold retorted, 3,503 oz. Tailings (cyanide process)—tons treated, 3,355; gold recovered, 447 oz. Concentrates (cyanide process)—tons treated, 61; gold recovered, 164 oz.; total gold recovered, 4,114 oz. Langlaagte Estate: Ore crushed, 20,680 tons; gold retorted, 7,023 oz. Tailings (cyanide process)—tons treated, 24,640; gold recovered, 2,506 oz. Concentrates (cyanide process)—tons treated, 585; gold recovered, 1,943 oz.; total gold recovered, 11,472 oz. Block B Langlaagte Estate: Ore crushed, 8,220 tons; gold retorted, 2,540 oz. Tailings (cyanide process)—tons treated, 5,060; gold recovered, 606 oz. Concentrates (cyanide process)—tons treated, 168; gold recovered, 435 oz.; total gold recovered, 3,581 oz. Champ d'Or: Johannesburg—During the month mill crushed 5,500 tons, producing 3,366 oz. of gold; cyanide 4,400 tons, yielding 1,150 oz. of gold; total, 4,516 oz. New Clewer Estate: Crushed 1,757 tons, yielding 709 oz. of gold. From cyanide works—treated 659 tons, yielding 770 oz.; total yield, 1,479 oz. Simmer and Jack: Obtained 5,458 oz. of gold from mill, 598 oz. of gold by chlorination, and 1,487 oz. of gold from tailings by cyanide.

SAN JORGE NITRATE CO., LTD.—The Board announced, on the 19th prox., of an interim dividend at the rate of 1 cent. per annum for the half year ended June last.

THE RAILWAY COMPANIES AND THE COAL TRADE.—At a conference of coal traders' associations, held in Manchester, to what action should be taken with regard to the increased sidings and other charges which have been put in force by the companies, a committee was appointed to deal with various complaints which had been brought forward, and to take such proceedings as might be thought requisite. This committee meeting last week at the Manchester Coal Exchange. Mr. Pearson, of Stalybridge, occupied the chair, and there were representatives from the principal Coal Traders' Association of the country. The first business was the consideration of complaints which had been sent in to the committee, chiefly regarding the increased charges for siding rents, but also with regard to other action on the part of railway companies, and it was that the secretary and solicitor of the West Riding Coal Traders' Association should be instructed to prepare a case to lay before the committee, his opinion as to the best course to adopt for bringing these matters before an issue. It was also resolved that the various railway companies should be written to, intimating that on the part of the Coal Traders' Association measures had been initiated for a case before the Board of Trade or the Railway Commission, which they desired should be dealt with as an amicable settlement between the railway companies and the coal traders, with a view to arriving at a definite settlement, and as the basis upon which further definite proceedings might be taken if requisite.

NOTICES.

LONDON AGENTS

Booksellers and Newsagents may now obtain supplies of

"THE CHEMICAL TRADE JOURNAL"

From

MR. JOHN HEYWOOD,

2, Amen Corner,

On usual trade terms.

Paternoster Row,

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed MONEY ORDER* is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in the acknowledgment of foreign remittances is inevitably entailed in this method.

Market Reports.

TAR AND AMMONIA PRODUCTS.

There is practically very little change in any of the tar products. Benzols are quiet at 1s. Carbolic acids, both crude and refined, are much the same as last week, at 1s. 7d. for 60% and 5% respectively. Solvent and crude naphthas are dull, without alteration in prices. Pitch keeps firm at 38s. 6d., f.o.b. East.

Regarding sulphate of ammonia there is very little to be said, as it is anyhow and the market demoralized. Virtually there is no doing, and quotations are being circulated with a view to the producers. Reports from Scotland to the effect that work has been accepted are numerous, and the nearest value at all is does not appear to be above £9. According to rumour, £8. 10s. Leith value to-day.

MISCELLANEOUS CHEMICAL MARK

Business in the alkali trade continues brisk, both for spot and forward delivery. Bleaching powder is more active, both in price and delivery, with considerable inquiry for export—at £7. per ton, f.o.r. makers' works, and £7. 7s. 6d. to £8. per ton, hardwoods, f.o.b. Liverpool. Alkali, 58%, is meantime

per ton, nett; soda crystals, casks, £2. 5s. per ton, gross weight; do., 2 cwt. bags, £2. 5s. per ton, nett weight; chlorate of potash, 5d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

SALT.—South Durham salt is steady at 9s. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—There is little change to report in the steam coal market. Turns are stated to be fairly full, but otherwise there is no pressure in the trade. Steam smalls continue scarce and fairly firm at about 3s. 6d. In gas coal the activity continues, and prices range from 6s. 3d. to 7s. according to quality. Coke, 13s. 6d. to 14s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

Mineral oils and paraffins are all stronger under the influence of the hostile attitude of the shale miners. These have given up thoughts of an out-and-out strike in the meantime, but resort to reduction of output tactics, with the view of gradually depleting surface reserves of minerals, and so bringing the masters more in their power. The latter (or at least those of them whose stocks of binged mineral are good) say they will close their mines altogether for a space, if the miners persist in working only a part of the week. Unfortunately, some of the works are not well stocked with reserves, and are thus less well prepared for extreme measures of resistance. Lubricating oils have felt the upward tendency most, and are dearer all round, at a range of from £4. 10s. to £6. 10s. Sulphate of ammonia has been falling into a still poorer condition, having been done below £9. It is now, however, generally quoted at from £9 to £9. 2s. 6d., but very little doing. In general chemicals the recent improvement has hardly been fully sustained, and the feeling is again to the easy side, with no special lowering of quotations.

Chief prices current are:—Soda crystals, 37s. 6d. nett, Tyne; soda ash, 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, 48/52°, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett, Glasgow; caustic soda, white, 76° £9. 5s., 70/72° £7. 15s., 60/62° £6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching powder, £6. 5s. to £7. nett, Tyne; saltcake, 20s.; borax, English refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool;

bichromate of potash, 4½d. nett, for Scotch and English deliveries export, 4¼d. nett, f.o.b. Glasgow; bichromate of soda, 3¾d. nett, Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 4¾d. less 5%, Liverpool; nitrate of soda, 7s. 9 8s.; sulphate of ammonia, £9. to £9. 2s. 6d. prompt, Leith; salammoniac, first and second white, £39. and £37. nett, port; sulphate of copper, £16. 15s., less 5%, Liverpool; paraffin hard, 2½d.; and soft, 1½d. to 2½d. per lb.; paraffin wax 120° refined, 2½d. to 2¾d.; paraffin spirit (naphtha), 8d. per gal paraffin oil (burning), No. 1 6½d., and crystal 6¾d., at work Scotch buyers (English sales about 1d. lower); ditto (lubricating) £4. 10s. to £5.; 885° £5. to £5. 5s., and 890/895° £5. to £6. Week's imports of sugar at Greenock were 3,500 bags refined.

New Companies.

Devonshire's Prepared Fish Manure Co., Ltd.—CAPITAL £1,500., in £1. shares. This company has been formed to acquire carry on the business of fish manure manufacturers now conducted by J. Devonshire, King's Lynn, Norfolk. Registered office is Norfolk-street, King's Lynn.

Best Belting Co., Ltd.—CAPITAL £10,000. in £1. shares. company has been formed to acquire the business of D. Robinson Cullum-street, E.C., and to manufacture leather and cotton belting etc. The subscribers to the memorandum of association are: H. I. head, Glasgow, leather merchant; A. M. Muirhead, Bridge of currier; J. Morton, Glasgow, bookkeeper; D. H. Paterson, Glasgow, warehouseman; D. Robinson, 13, Cullum-street, E.C., merchant; Mrs. K. I. Robinson, Sawbridgeworth, Herts.; F. Robinson, Sawbridgeworth, Herts., clerk.

Gazette Notices.

PARTNERSHIP DISSOLVED.

D. CRAWFORD and J. GRIME, dyers and bleachers, Kersal Vale Print Works Manchester, under the style of D. Crawford and Co

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

SMALLWOOD, THOMAS EDWARD (carrying on business as T. E. Smallwood and as the Tyne Soap and Varnish Co.), Gateshead, importer, manufacturer and merchant.

IMPORTS OF CHEMICAL PRODUCTS

AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending September 7th.

Acetic Acid—

Holland, 50 pks. Philipps & Graves

Acetone—

Holland, 1 pkge. T. H. Lee

Alum—

Sydney, 150 t. Davies, Jones & Co.

Asbestos—

France, 63 Girard, Fris. & Co.

Canada, 513 J. Owen

" 240 W. Byford

Italy, 24 J. N. Harker

Barium Chloride—

Germany, 23 pks. Petri Bros.

Barytes—

Holland, 46 cks. Burrell & Co.

" 200 bgs. Leach & Co.

" 24 pks. J. L. Lyon & Co.

" 99 W. Harrison & Co.

" 23 S. H. Willoughby

" 70 Philipps & Graves

Belgium, 121 pks. Burrell & Co.

Germany, 18 cks. Robertson, Selby & Co.

Belgium, 176 J. L. Lyon & Co.

Caoutchouc—

E. Indies, 130 c. Huttenbach & Co.

U. States, 9 Prop. Bull. Wf.

France, 120 J. Burnett & Sons

" 20 H. Johnson & Sons

Madagascar, 5 L. & I. D. Jt. Co.

" 15 Kleinwort, Sons & Co.

E. Indies, 1,506

" 33 Ross & Deering

Madagascar, 81 Prop. Bull. Wf.

E. Indies, 160 H. A. Litchfield & Co.

France, 40 Hernu, Peron & Co.

Zanzibar, 26 Prop. Bull. Wf.

U. States, 86 Stiebel Bros.

Castor Oil—

France, 2 cs W. G. Frith & Co.

" 13 cks. Beresford & Co.

Caustic Potash—

France, 20 c. F. J. Putz & Co.

Belgium, 26 Petri Bros.

Chemicals (otherwise undescribed)

Germany, 45 A. F. White & Co.

" 9 pks Craven & Co.

" 9 Brit. Paint Co.

Melbourne, 16 L. & N. W. Rly.

Germany, 1 pk. J. W. Drysdale & Co.

Holland, 6 Philipps & Graves

Germany, 40 J. Howie

" 31 L. & I. D. Jt. Co.

" 40 A. & M.

" 410 Zimmermann

Sydney, 4530 Langstaff & Co.

Belgium, 5 J. H. Lee

Holland, 12 pks. J. Allan & Co.

" 119 T. Palmer

" 119 J. Owen

" 119 A. & M.

Copperas—

Germany, 8 pks. A. Zumbach & Co.

Cream of Tartar—

Spain, 9 pks. Fellows, Morton, & Co.

Holland, 16 pks. W. C. Bacon & Co.

France, 5 F. C. Devon & Co.

Spain, 7 W. C. Bacon & Co.

Portugal, 5 B & F. Wf. Co.

Dextrine—

Germany, 20 pks. R. G. Hall & Co.

Holland, 10 H. Lorenz

" 10 J. Barber & Co.

Dyestuffs—

Italy, 43 pks. Thames S. T. & L. Co., Ltd.

Cochineal

Canaries, 4 pks. G. S. Bruce

" 20 W. H. Cole & Co.

" 6 A. Mahler

Cutch

Rangoon, 200 pks. L. & I. D. Jt. Co.

" 200 H. A. Litchfield & Co.

E. Indies, 500 J. Swire & Sons

Extracts

France, 111 pks. Bennett S. S. Co.

Denmark, 13 Sorensen & Co.

Germany, 200 J. Knill & Co.

U. States, 121 A. J. Humphrey

Holland, 10 Philipps & Graves

Fustic

Jamaica, 18 t. Park, Macfadyen & Co.

" 17 Anderson, Anderson & Co.

Gambler

E. Indies, 346 pks. Brinkmann

" 222 Adamson, G.

" 394 Bernadine

" 136 Fellows, M.

" 797 W. J.

" 1,351 G. Ward

" 494 R. & J. H.

" 223 Union

Indigo

Ceylon, 20 cts. L. & I. D.

E. Indies, 7 "

Logwood

Jamaica, 9 t. Park, Mac

" 39 And

" 3 Anderson

Myrabolams

E. Indies, 5,452 pks. W. J.

Shumac

Italy, 2,000 pks. Ber

" 180 J. Kitch

" 30 Bailey & L.

" 70 "

" 100 Bin

" 100 Fisher

Tanner's Bark

Natal, 31 t. Dyson,

Adelaide, 35 Leach

Natal, 54 A. & W. J.

" 61 Flach, C.

Germany, 96 Natal, 104	Union L. Co. Boucher, Mortimore & Co.
Adelaide, 1 " 14 t.	Baxter & Hoare G. & H. Green
Turmeric Ceylon, 92 pks. E. Indies, 274	L. & I. D. J. Co. " "
Valonia A. Turkey, 13 t. " 50	A. & W. Nesbitt Hicks, Nash & Co.
Dyestuffs (otherwise undescribed) Italy, 12 pks.	Williams, Torrey & Co.
France, 1	Hernu, Peron, & Co.
Parina Holland, 300 pks. " 125 " 100	R. G. Hall & Co. J. Barber & Co. T. H. Lee
French Chalk Italy, £100	W. Harrison & Co.
Glucose France, 200 pks. Germany, 600 U. States, 500 Germany, 200	300 c. G. Mallard 600 Baxter & Hoare 500 Bellamy & Co. 200 J. Frank & Ohlmann
U. States, 50	300 H. Johnson & Sons
" 998	998 G. Hedges & Son
" 4,694	4,694 Fellows, Morton, & Co.
" 250	250 Trier, Meyer, & Co.
" 1,000	1,000 D. E. Recknell
" 24	200 Bennett S. S. Co.
" 500	500 Beck & Pollitzer
" 100	560 J. Newcomb
" 2 343	2,353 G. Clark & Sons
" 706	2 359 R. G. Hall & Co.
" 579	579 Pearce, Pelly, & Co.
Iue " £920	
Lagnesia Germany, 17 pks.	H. W. Wright
Lagnesium Borate Germany, 30 pks.	Petri Brs.
Lagnese Ore Germany, 10 t.	C. S. Lovell
Lanure Sydney, 200 t. E. Indies, 75 U. States, 17	A. Hunter & Co. " " T. M. Duche & Sons
Methyl Alcohol Belgium, 7 dms.	H. Lorenz
Mica E. Indies, £60 " 125	Allan Brs. & Co. W. M. Smith & Sons
Molasses U. States, 250 cks. " 100	1,450 c. J. Newcomb 538 L. Sutro & Co.
Ochre Holland, 4 pks. France, 126 cks. Italy, 15	Phillipps & Graves W. Harrison & Co. " "
Paraffin Wax U. States, 2,017 brls.	Anglo-American Oil Co.
" 184	G. H. Frank
Pitch France, 163 cks.	H. Hill & Sons
Plumbago Ceylon, 338 cks. " 119 " 32 Germany, 2 France, 4	J. Thredder, Son, & Co. G. Ward & Son R. G. Hall & Co. Brown & Elmslie Rees & Deering
Potassium Bicarbonate Holland, 30 c.	A. & M. Zimmermann
Potassium Carbonate Holland, 18 c. France, 100 " 200	Petri Brs. F. J. Putz & Co. Charles & Fox
ium Cyanide nd, 45 pks.	F. Boehm
ium Permanganate nd, 17 pks.	E. Merck
ce Stone " 8 t.	Bailey & Leatham R. G. Hall & Co.
ilver " 25 brls.	Blundell, Spence, & Co. H. J. Enthoven & Sons
Rosin U. States, 213 brls. " 200 " 300 " 500	H. Hill & Sons Moore & Hole F. & S. Chiesman & Co. London & Kirkcaldy Shipping Co.
Saltpetre Germany, 43 cks. Holland, 74	J. Hall & Son Lucas & Spencer's Wf. Co.
Sodium Hyposulphite Holland, 200 pks.	Beresford & Co.
Starch Holland, 145 pks. Belgium, 200 France, 310 Holland, 12 pks. Belgium, 4 Holland, 40 " 40 U. States, 580 Belgium, 20 France, 370 " 10 Austria, 310 Belgium, 25 France, 145 " 170	Little & Johnston T. Ronaldson & Co. G. Mallard Lunham & Moore T. H. Lee Phillipps & Graves G. Rahn & Co. Oswego Co. Leach & Co. Sawer, Sons, & Co. City Coml. Wf E. & T. Pink R. G. Hall & Co. F. Claydon & Co. A. Dunn
Stearine France, 100 bgs. Belgium, 60	Walbaum & Tosetti H. Hill & Sons
Sulphur Italy, 20 t. " 5 " 100 " 5 " 15	J. Greig C. J. Capes & Co. W. C. Bacon & Co. Type & King A. Zumbbeck & Co.
Tar Russia, 1,325 brls.	Linck, Moeller, & Co.
Tartaric Acid Holland, 14 pks. Germany, 20	B. & F. Wf. Co. F. C. Devon & Co.
Turpentine Savannah, 1,937 brls.	Nickoll & Knight
Ultramarine Germany, 4 cs. Belgium, 3 brls.	H. Brooks & Co. 11 pks. W. Harrison & Co.
Holland, 4 cks.	Phillipps & Graves
" 20	Hernu, Peron, & Co.
Varnish Germany, 3 pks.	L. & I. Dk. Co.
White Lead Holland, 18 cks. France, 46 Belgium, 90 Germany, 27 " 22 " 22 France, 18 Belgium, 1 Germany, 26 Holland, 57	Phillipps & Graves W. Harrison & Co. Colthurst & Harding Randall Bros. Haeffner, Hilpert, & Co. Burrell & Co. G. E. Barnes S. H. Willoughby T. & W. Farmiloe
Wood Pulp Sweden, 500 pks.	W. G. Taylor & Co.
" 4 091	Henderson, Craig, & Co.
Norway, 30	W. E. Bott & Co.
Germany, 25	H. Lambert
" 610	E. J. & W. Goldsmith
Holland, 484	Moreton Cox Brs.
Germany, 53	Thames S. T. & L. Co.
" 20	Craven & Co.
Belgium, 2,664	W. Smith
Zinc Oxide Holland, 50 pks.	Prprs. Dowgate Dk.
" 50 brls.	M. Ashby, Ltd.
U. States, 100	" "
Germany, 50	" "
LIVERPOOL. Week ending September 5th.	
Acetic Acid Rotterdam, 30 blns.	
Albumen Hamburg, 10 cs.	
Aluminium Antwerp, 27 cks.	J. T. Fletcher & Co.
Arsenic Hamburg, 4 kgs.	
Barytes Antwerp, 30 cks. Rotterdam, 43	
Bone Meal Karachi, 640 bgs.	
Boracic Acid Laghorn, 44 cks.	
Castor Oil Laghorn, 60 cs.	
Chemicals (otherwise undes.) Hamburg, 4 cs.	
Chrome Ore Baltimore, 123 brls.	P. R. M'Quie & Son
Citric Acid Messina, 4 cks. 4 pkgs.	
God Oil St. John's, Nfld., 16 cks.	J. J. Langley
" 301	
Hamburg, 3	
Colours Rotterdam, 10 cks. 1 cs. Antwerp, 4	
Dextrine Stettin, 150 bgs.	J. Buntin & Co.
Dyestuffs Argols Oporto, 24 cks.	German Bk. of London R. Fowler
Laghorn, 2	
Cochineal Gd. Canary, 15 bgs.	
" 4	Sperling & Williams
Cutch Rangoon, 780 bxs.	
Divi Divi Hamburg, 77 bgs.	
Extracts Philadelphia, 100 bxs. Halifax, 43 cks.	Boutcher, Bacon & Co. Co-op. W'sale Society, Ltd.
Rouen, 350	
Bordeaux, 30	
Baltimore, 50 brls.	Mucklow & Co.
" 8	B. Wilkinson & Co.
" 1	Miller's Penna Extract Co.
Ghent, 50	J. T. Fletcher & Co.
Fustic Kingston, 316 ps. Tampico, 2,466	B. Hall & Co. D. Midgley & Son
" 1 966	Oetling & Co.
Logwood Laguna, 7,878 qnlt.	
Orchella Lisbon, 15 bls.	Edwards Brs.
Saffron Valencia, 2 cs.	
Sumac Palermo, 110 bgs.	J. Kitchen Ltd.
" 2,300 250 bls.	
Valonia Smyrna, 83,005 kilos.	2,157 bgs.
Farina Fiume, 30 bgs.	
Glucose New York, 200 brls. Hamburg, 16 cks.	Duche & Son
Glue Genoa, 9 cks. Bremen, 10 bgs. Rotterdam, 3 cs. Rouen, 10	W. H. Newman Co-op. W'sale Society, Ltd.
Hamburg, 1	
Limestone Antwerp, 4 crts.	J. T. Fletcher & Co.
" 2	
Manganese Antwerp, 9 cks.	
Manure Philadelphia, 169 bgs.	
Mica New York, 10 bls.	T. Robinson & Son
Ochre Bordeaux, 20 cks.	
Paraffin Scale New York, 554 brls.	Thompson & Bedford
Philadelphia, 300 Baltimore, 100	
Paraffin Wax Philadelphia, 125 brls.	
Phosphate Bona, 2,050 t.	
Plumbago Genoa, 100 bgs.	G. Huntriss & Co.
Potash Dunkirk, 17 dms.	
Potassium Carbonate Rouen, 11 cks.	Co-op. W'sale Society, Ltd.
Pumice Stone Laghorn, 21 bgs. Messina, 20	20 brls. 31 pkgs
Pyrites Karachi, 1,966 t.	Matheson & Co.
Huelva, 1,650	" "
Rosin Boston, 1,605 brls. Baltimore, 1,000	
Colours Rotterdam, 24 cks. 50 brls.	
Soap B. Ayres, 248 bxs. Naples, 160 cs. Laghorn, 250	Weaver & Sterry Barclay & Sons
Boston, 4	
Rotterdam, 1	
Soapstone Philadelphia, 100 bgs.	
Soda Halifax, 1 kg.	United Alkali Co.
Starch Boston, 125 brls. Hamburg, 232 cs. Antwerp, 145	J. T. Fletcher & Co.
" 8	
Rotterdam, 105	
Stearine Antwerp, 24 bgs.	
Sulphur Messina, 100 t. Catania, 97 brls.	220 bgs. 100 cks
Tallow B. Ayres, 376 pps.	84 hds.
Tartar Naples, 3 cks. Bordeaux, 1	
Tartaric Acid Hamburg, 2 cks.	
Treacle Philadelphia, 2,000 brls. Bordeaux, 20 cs.	
Turpentine Savannah, 3,335 brls.	
Varnish Rotterdam, 2 cks.	
Waste Salt Hamburg, 813 bgs.	
White Lead Antwerp, 10 cks.	
Wood Pulp Montreal, 2,330 bdls.	A. Rice & Co.
Gothenburg, 170 bls. Skien, 4,187	H. Tyrer & Co.
Zinc Oxide New York, 50 brls. Antwerp, 75	2 cks. 100
Zinc Sulphate Rotterdam, 1 ck.	
MANCHESTER. Week ending September 7th.	
Acetate of Lime New York, 978 bgs.	J. W. Coulston & Co.
Aluminous Cake Rotterdam, 50 bgs.	
Aniline Colours Antwerp, 11 cks.	
Antimony Oxalate Rotterdam, 4 cks.	Wilson, Son, & Co.
Barytes Rotterdam, 18 cks.	
Chemicals (otherwise undescribed) Rotterdam, 3 cks.	Wilson, Son, & Co.
Colours Rotterdam, 62 cks. 10 cs. 68 brls. 15 bxs.	

Antwerp, Rotterdam, 6	10	Wilson, Son, & Co.
Cream of Tartar —		
Rotterdam, 20 kgs.		Wilson, Son, & Co.
Dextrine —		
Stettin, 100 bgs.		A. Bannerman & Co.
" 150		
Dyestuffs —		
Alizarine		
Rotterdam, 24 cks.		Wilson, Son, & Co.
" 40		
Annatto		
Bordeaux, 34 cks.		J. & P. Hutchison
Extracts		
Treport, 20 cks.		
Antwerp, 6		
Bordeaux, 100		J. & P. Hutchison
Farina —		
Harlingen, 50 bgs.		J. Lang, Sons, & Co.
Stettin, 100		
" 969		
Hamburg, 142		
Stettin, 1,300		Browne, Geveke, & Co.
Glucose —		
Hamburg, 70 cks.		
New York, 200 bbls.		
Glue —		
Rotterdam, 20 bgs.		
Stettin, 7 cks.		Albion Chemical Co.
Hamburg, 17		
New York, 50 bgs. 9 bskts.		D. Moseley & Sons
Rotterdam, 80 bgs.		Wilson, Son, & Co.
Lead Acetate —		
Rotterdam, 16 cks.		Wilson, Son, & Co.
Mineral White —		
Bordeaux, 140 bgs.		G. G. Blackwell, Sons, & Co.
Oxalic Acid —		
Rotterdam, 4 cks.		Wilson, Son, & Co.
Ozokerit —		
Stettin, 10 bgs.		
Pitch —		
Hamburg, 50 cks.		
Potash —		
Treport, 41 dms.		
Soap —		
Rotterdam, 2 cs.		Wilson, Son, & Co.
Starch —		
Rotterdam, 10 cs.		
Ghent, 120		J. T. Fletcher & Co.
Hamburg, 160		
Rotterdam, 40		Wilson, Son, & Co.
Tartar —		
Bordeaux, 2 cks.		J. & P. Hutchison
Tin Perchloride —		
Antwerp, 2 cks.		
Ultramarine —		
Hamburg, 5 cks.		
Wood Pulp —		
Sundswall, 13,500 bbls.		
Rotterdam, 104		
Uleaborg, 525 fthms.		Kellner-Partington Paper Co., Ltd.
(Thro' Barrow)		
Vilborg, 356 fthms.		
(Thro' Barrow)		Kellner-Partington Paper Co., Ltd.
Zinc Oxide —		
Rotterdam, 25 bbls.		
Antwerp, 20		
Hamburg, 2 cks.		

HULL.

Week ending September 7th.

Acetic Acid —		
Rotterdam, 10 bbls.		Hutchinson & Son
Alkali —		
Bremen, 6 cs.		Veltmann & Co.
Arsenic —		
Hamburg, 165 bbls. 100 cks.		Wilson, Son, & Co., Ltd.

Asbestos —		
New York, 600 bgs.		Wilson, Son, & Co., Ltd.
Riga, 220		
Rotterdam, 2 bbls.		W. & C. L. Ringrose
Barytes —		
Antwerp, 120 cks.		Bailey & Leatham
" 100 bgs.		Sissons Bros. & Co.
Rotterdam, 111 cks.		Hutchinson & Son
Bone Meal —		
Kurrachee, 1,000 bgs.		Wilson, Son, & Co., Ltd.
Chemicals (otherwise undescribed)		
Bremen, 6 cs.		Veltmann & Co.
Dunkirk, 49 pks.		
Cod Oil —		
Drontheim, 10 bbls.		Wilson, Son, & Co., Ltd.
Christiania, 50		
Colours —		
Hamburg, 4 cks.		A. Sanderson & Co.
" 7 cs.		G. Malcolm & Co.
Rotterdam, 9 bbls. 6 bxs.		Hutchinson & Son
" 10 cks. 35 pks.		W. & C. L. Ringrose
Amsterdam, 1		
Dyestuffs —		
Alizarine		
Rotterdam, 32 pks.		W. & C. L. Ringrose
" 2 bbls.		Hutchinson & Son
Indigo		
Kurrachee, 51 cs.		Wilson, Son, & Co., Ltd.
Madder		
Rotterdam, 1 ck.		Hutchinson & Son
Myrobolams		
Bombay, 8,427 bgs.		
Valonia		
Smyrna, 201 t.		
Farina —		
Ghent, 380 cs.		Wilson, Son, & Co., Ltd.
Stettin, 650 bgs.		
Harlingen, 50		W. & C. L. Ringrose
Glucose —		
New York, 950 bbls.		
Stettin, 300 bgs.		
Rotterdam, 60		Hutchinson & Son
Glue —		
Rotterdam, 5 bgs.		Hutchinson & Son
Dunkirk, 21 pks.		Wilson, Son, & Co., Ltd.
Manure —		
Ghent, 1,020 bgs.		Wilson, Son, & Co., Ltd.
Paint —		
Stavanger, 1 bbl.		Blundell, Spence & Co.
New York, 12 cs.		Wilson, Son, & Co., Ltd.
Pitch —		
Archangel, 700 cks.		
Amsterdam, 14		W. & C. L. Ringrose
Saltpetre —		
Antwerp, 135 bgs.		
Hamburg, 10 kgs.		Wilson, Son, & Co., Ltd.
" 4 cks.		
Soap —		
Rotterdam, 2 cs.		W. & C. L. Ringrose
Starch —		
Rotterdam, 5 cs.		Hutchinson & Son
Bremen, 3,069		1 bbl. Veltmann & Co.
Antwerp, 200		Bailey & Leatham
" 200		Wilson, Son, & Co., Ltd.
Stearine —		
Antwerp, 35 bgs.		Wilson, Son, & Co., Ltd.
Tar —		
Drontheim, 15 bbls.		Wilson, Son, & Co., Ltd.
Archangel, 2,649		
Tar Oil —		
Archangel, 100 bbls.		

Tartaric Acid —		
Rotterdam, 2 cks.		W. & C. L. Ringrose
Treacle —		
New York, 1,100 bbls.		Wilson, Son, & Co., Ltd.
" 100		
Ultramarine —		
Rotterdam, 2 cks.		Hutchinson & Son
Yarnish —		
New York, 2 cs. 9 pks. 15 bxs.		Wilson, Son, & Co., Ltd.
White Lead —		
Rotterdam, 41 cks.		Hutchinson & Son
Antwerp, 30		Bailey & Leatham
Rotterdam, 11		W. & C. L. Ringrose
Wood Pulp —		
Hamburg, 210 bbls.		Bailey & Leatham
Abo, 60		
Zinc Oxide —		
Antwerp, 25 cks.		Bailey & Leatham

GLASGOW.

Week ending September 12th.

Acetic Acid —		
Rotterdam, 5 cks.		J. Rankine & Son
Aniline Colours —		
Amsterdam, 1 kg. 1 cs.		
Asbestos —		
Rotterdam, 9 bbls.		J. Rankine & Son
Barium Chloride —		
Rotterdam, 4 cks.		
Barium Sulphate —		
Antwerp, 150 bgs. 21 cks.		
Barytes —		
Rotterdam, 40 pks.		
Chemicals (otherwise undescribed)		
Hamburg, 1,016 bgs.		
Lisbon, 1 ck.		
Colours —		
Hamburg, 3 cks.		
Rotterdam, 26 pks.		
" 14		J. Rankine & Son
Cottonseed Oil —		
Baltimore, 7 bbls.		
Dyestuffs —		
Alizarine		
Rotterdam, 45 pks.		J. Rankine & Son
Arachide Oil		
Rotterdam, 1 ck.		J. Rankine & Son
Argols		
Bordeaux, 39 cks.		
Cutch		
Rangoon, 700 cs.		
Extracts		
Antwerp, 3 cks.		
Farina —		
Hamburg, 350 bgs.		
Glucose —		
New York, 196 bbls.		
Glue —		
Antwerp, 10 bgs.		
Hamburg, 16		
Rouen, 8 cks.		
Infusorial Earth —		
Rotterdam, 44 bgs.		J. Rankine & Son
Ochre —		
Rouen, 33 cks.		
Oxalic Acid —		
Rotterdam, 6 cks.		J. Rankine & Son
Painters' Colours —		
Antwerp, 4 cks.		
Ghent, 1		
Phosphate of Lime —		
Ghent, 1,020 bgs.		
Potash —		
Rotterdam, 25 cks.		J. Rankine & Son
Potassium Binonate —		
Rotterdam, 5 cks.		J. Rankine & Son
Potassium Prussiate —		
Rotterdam, 4 cks.		J. Rankine & Son
Pyrites —		
Huelva, 1,876 t.		Thariss Co.

Rosin —		
New York, 756 bbls.		
Soap —		
New York, 2,500 bbs.		
Starch —		
New York, 125 cks.		
Antwerp, 40 cs.		
Rotterdam, 174		
Stearine —		
Antwerp, 76 bgs.		
Amsterdam, 93		
Tartar —		
Bordeaux, 10 cks.		
Tarragona, 6		
Tartaric Acid —		
Rotterdam, 18 cks.		
Treacle —		
New York, 50 bbls.		
Boston, 250		
Varnish —		
New York, 6 bbls.		
Waste Salt —		
Hamburg, 148 t.		
White Lead —		
Rotterdam, 113 cks.		
" 12		
Wood Pulp —		
Christiania, 1,784 bbls.		
Hamburg, 203		
Fredricksdal, 2,141		
Zinc Oxide —		
Antwerp, 50 cks.		

TYNE.

Week ending September 12th.

Asbestos —		
Hamburg, 4 cks.		Tyne
Barytes —		
Rotterdam, 13 cks.		Tyne
Cod Oil —		
Bergen, 5 bbls.		
Colours —		
Antwerp, 1 cs.		
Cryolite —		
Copenhagen, 2 cks.		
Farina —		
Hamburg, 20 bgs.		Tyne
Gelatine —		
Rotterdam, 5 cs.		Tyne
Glucose —		
New York, 50 bbls.		
Limestone —		
Antwerp, 3 cts.		Tyne
Paint —		
Gothenburg, 2 kgs.		
Phosphate —		
Brussels, 150 t. Blaydon		
Plumbago —		
Hamburg, 5 cks.		Tyne
Soap —		
Rotterdam, 4 cs.		Tyne
Sodium Nitrate —		
Taitai, 1,874 t.		J. O. Son
Starch —		
Ghent, 20 cs.		Tyne
Rotterdam, 60		
Stearine —		
Antwerp, 6 bgs.		Tyne
Varnish —		
New York, 2 bbls.		
Wood Pulp —		
Christiania, 1 t.		
Zinc Oxide —		
Antwerp, 50 bbls.		Tyne
Rotterdam, 25 cks.		

GOOLE.

Week ending September 12th.

Alkali —		
Hamburg, 12 cks.		
Aniline —		
Ghent, 20 cks.		
Anthracene —		
Boulogne, 1 ck.		
Colours —		
Rotterdam, 182 cks. 44 cs.		
Ghent, 23		
Hamburg, 3		

Is— Prime am, ood 908 t. Is (otherwise undescribed) am, oe, 140 bgs. hl, 1,847	Phosphate— Ghent, 918 bgs. Potash— Rotterdam, 30 cks. Dunkirk, 13 Sodium Silicate— Rotterdam, 4 cks. Varnish— Boulogne, 6 cks.	Waste Salt— Hamburg, 828 cks. Wood Pulp— Rotterdam, 50 bls. Hamburg, 328 pks. GRIMSBY. Week ending September 7th. Chemicals (otherwise undescribed) Rotterdam, 1 ck.	Antwerp, 16 cs. Hamburg, 1 Colours— Antwerp, 87 pks. 10 cks. Hamburg, 176 Paint— Malmo, 13 dms. Starch— Antwerp, 18 cs.
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EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON. Week ending September 11th.		Disinfectants— Calcutta, 45 pks. £76 Guano— Genoa, 100 t. £1,000 Hydrofluoric Acid— E. London, 4 cs. £20 Magnesia— Seville, 13 cs. 5 c. £30 Manure— Lisbon, 24 t. 18 c. £90 Surinam, 60 630 Makira, 5 43 Paris, 10 15 115 Oxalic Acid— Baltimore, 3 t. 6 c. £110 Phosphorus— Dunedin, 5 cs. £51 Las Palmas, 1 c. 12 Potassium Chlorate— Genoa, 2 cs. £92 Lisbon, 4 184 Saltpetre— Dunedin, 1 t. £23 Melbourne, 1 22 Rio de Janeiro, 3 9 c. 79 Sheep Dip— Lyttelton, 3 cks. £27 Albany, 25 cs. 70 Wellington, 90 drs. 90 Algoa Bay, 6 c. 10 E. London, 8 24 B. Ayres, 23 t. 18 784 Melbourne, 70 cks. 650 609 Cape Town, 2 t. 14 92 Soda Ash— San Diego, 42 t. 14 c. £180 Soda Crystals— Algoa Bay, 4 t. 6 c. £10 Sodium Bicarbonate— Natal, 1 t. 13 c. £11 Strontium Nitrate— New York, 5 t. £120 Sodium Prussiate— Boston, 5 t. £275 Sodium Silicate— Sydney, 9 t. 17 c. £29 Hobart, 4 15 20 Sulphur— Cape Town, 3 t. 12 c. £39 Algoa Bay, 100 kgs. 51 Sulphuric Acid— Natal, 1 t. 15 c. £10 Aden, 1 10 34 cs. 12 Tartaric Acid— Auckland, 12 c. £28 Libau, 2 cks. 17 Melbourne, 5 30 Yokohama, 15 20 kgs. 174 Sydney, 2 t. 198	Ammonium Carbonate— New York, 6 t. 6 c. £210 Ceara, 4 1 q. 7 Libau, 15 26 Havana, 6 10 Lisbon, 12 2 24 Ammonium Chloride— Christiania, 9 c. 3 q. £13 Syra, 6 4 15 Stettin, 1 t. 24 Ammonium Sulphate— Bordeaux, 9 t. 19 c. £96 Tornay, 100 905 New York, 50 1 508 Newport News, 50 1 490 Venice, 10 6 1 100 Las Palmas, 11 109 Samarang, 100 1,000 Sourabaya, 130 1,300 Philadelphia, 140 8 4 1,419 Melbourne, 5 4 14 Gutajewski, 40 12 3 384 Valencia, 19 5 2 190 Baltimore, 52 16 2 535 San Francisco, 103 6 1,060 Antimony— Philadelphia, 2 cks. Rio de Janeiro, 1 brl. Asbestos— St. Nazaire, 13 cs. Bleaching Powder— Ancona, 19 cks. Bombay, 10 5 dms. Boston, 344 Calcutta, 125 cs. Cape Town, 40 bxs. 20 Delagoa Bay, 10 Havana, 30 Leghorn, 30 Lisbon, 17 Montreal, 10 brls. New York, 319 Vera Cruz, 50 Newport News, 157 Portland, 83 Rouen, 103 San Francisco, 58 San Sebastian, 50 Boracic Acid— Sydney, 1 t. 2 c. £33 Brisbane, 10 17 Bremen, 1 12 3 q. 49 Rotterdam, 1 5 30 Havana, 1 1 35 Borax— Sydney, 2 t. £40 Brisbane, 1 22 Ghent, 1 20 Delagoa Bay, 1 19 c. 20 B. Ayres, 1 1 Montreal, 9 8 Algoa Bay, 1 21 Hamburg, 19 18 3 q. 18 Rotterdam, 16 18 325 Havana, 1 1 19 Antwerp, 23 18 5 481 Calcium Chloride— Sydney, 4 t. 3 c. 3 q. £9 Odessa, 10 22 Carbolic Acid— Hamburg, 17 t. 4 c. £859 Yokohama, 1 1 50 Genoa, 1 1 2 q. 63 Venice, 4 14 Philadelphia, 1 6 59 Cadiz, 6 1 13 Baltimore, 13 18 3 657 New York, 5 7 3 259 Carbonic Acid Gas— Rangoon, 8 c. £138	Castor Oil— Manaos, 5 brls. Colon, 100 cs. Caustic Soda— Amsterdam, 146 dms. Baltimore, 75 Bari, 15 Batavia, 20 Bombay, 26 B. Ayres, 6 Callao, 15 150 bxs. Cameroon, 20 Christiania, 40 Galatz, 68 Genoa, 10 Hamburg, 35 Havre, 10 Iquique, 20 kgs. Lisbon, 26 Malta, 125 Manila, 5 Maranham, 137 Marseilles, 5 Medhia, 16 5 Melbourne, 35 Montreal, 56 N. Orleans, 700 Newport News, 349 New York, 30 Oporto, 50 Philadelphia, 28 5 Pt. Elizabeth, 3 brls. Rotterdam, 82 drs. St. John's, Nfld., 30 25 San Sebastian, 25 Tarragona, 6 Toronto, 85 Vera Cruz, 8 pks. 6 1 brl. Barcelona, 107 Boston, 50 Cartagena, Sp., 20 10 cks. Havana, 50 Hiogo, 52 Odessa, 200 Rangoon, 100 Seville, 370 Valencia, 50 50 Chemicals (otherwise undescribed) Hamburg, 1 t. £33 Antwerp, 12 c. 22 Genoa, 1 12 54 Philadelphia, 13 3 425 Kurrachee, 1 10 57 Smyrna, 1 30 34 Stettin, 4 7 Konigsberg, 10 17 China Clay— Bilbao, 40 cks. Boston, 496 t. 173 Barcelona, 30 Genoa, 10 New York, 24 Citric Acid— Tampico, 2 cks. £24 Cobalt Oxide— Rotterdam, 2 c. £50 Coal Products— Alizarine Oil Lisbon, 3 cks. Aniline Oil Barcelona, 26 cks. Aniline Salts New York, 18 cks. 82 cs. Creosote Oil Lisbon, 150 brls. Pitch Rouen, 2 cks. Tar Pernambuco, 150 brls.
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LIVERPOOL.

Week ending September 11th.

Acetic Acid— Lisbon, 3 c. £6 San Francisco, 2 t. 2 73 Albumen— Boston, 3 t. £60 Alum— B. Ayres, 40 cks. 18 t. 7 c. 2 q. £134 Boston, 7 1 Aluminoferrie— Boston, 21 t. 4 c. £— Aluminous Cake— Baltimore, 4 t. 16 c. 3 q. £12
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Tar Salts			Philadelphia, 27			Constantinople, 1			Montreal, 20		
Barcelona, 2 cks.			Ponce, 4 brls.			Delagoa, 775			Nantes, 38		
New York, 5			Rio de Janeiro, 53			E. London, 2,371			Odessa, 50 bgs.		
Copper Sulphate—			S. John's, N'd., 2			Genoa, 150			Quebec, 50		
Bari, 2 t. 9 c.	£38		Talcahuano, 35			Hong Kong, 200			Richmond, 375		
Marseilles, 5	2 q.	82	Valparaiso, 9	50		Malta, 40	50		Jaffa, 5		
Smyrna, 1	5	19	Accra, 36 dms.			N. Orleans, 40	1		Kurrachee, 150		
M. Video, 19	3	15	Barcelona, 4	5	2	Old Calabar, 950			Madras, 25		
Boston, 25	3	413	Bombay, 4 brls. 51	1,177	36	Opobo, 1,120			Melbourne, 50		
Rouen, 18	5	285	Cape Town, 75			Panama, 250			New York, 167		
Copperas—			Danzig, 100 bgs.			Penang, 200			Rouen, 55		
Syria, 3 t. 10 c.	£7		Genoa, 49			Pt. Elizabeth, 1,559			Boston, 50		
Disinfectants—			Leghorn, 17			Pt. Natal, 650			Brisbane, 20		
Kurrachee, 5 t.	£29		Libau, 40			S. John's, N'd., 28			Sodium Carbonate—		
Dried Blood—			New York, { 21 20 8			St. Nazaire, 250			New York, 168 brls.		
Teneriffe, 4 t.	£77		San Juan, { 450 brls. 4 dms. 1 bx.			St. Thomas, 60			Sodium Chlorate—		
Gelatine—			San Sebastian, 20 cks.			St. Vincent, 60			Halifax, 7 brls.		
Philadelphia, 75 bxs.			Paraffin Wax—			Savanilla, 1			Hamburg, 7		
Guanos—			Trieste, 10 bgs.			Shanghai, 5,180			Lisbon, 1		
Santander, 4 t. 4 c.	£38		Phosphorus—			Tampico, 1			St. Petersburg, 75 kgs.		
Barcelona, 98	8	950	Hiogo, 1 t.	£200		Trinidad, 400			Sodium Silicate—		
Gypsum—			Plumbago—			Underhill, 14			Amsterdam, 5 brls.		
Portland, O., 100 t. 5 c.	£301		Rangoon, 1 ck.			Valparaiso, 1			Corinto, 10		
Iron Oxide—			Potashes—			Algoa Bay, 2,571			Sfax, 11		
Ghent, 12 t. 18 c.	£58		Manaos, 7 c.	£7		Amboyna, 2,500			Sodium Sulphate—		
Lime—			B. Ayres, 15	19		Belize, 450	10		Boston, 70 brls.		
Mussera, 7 c.			Potassium Bicarbonate—			Bombay, 250	21		Philadelphia, 54 cks.		
Litharge—			Philadelphia, 1 t.	£28		Buseh, 1			Sulphur—		
Manaos, 5 kgs.			Potassium Bichromate—			Calcutta, 20			Antwerp, 5 t.		
Maranham, 2			Tampico, 1 t.	£40		Callao, 1			Boston, 250		
Magnesia—			Piraeus, 1 19 c. 2 q.	82		Cameroon, 50			Philadelphia, 50		
Havre, 50 cs.			Potassium Chlorate—			Curacao, 516			Havana, 18		
Rio de Janeiro, 5 cks.			St. Petersburg, 10 t.	£390		Galveston, 20	1,613 t. 13 c.		Maranham, 11		
Tampico, 4			Santos, 6 13 c.	50		Gibraltar, 11 pks.			Calcutta, 6		
Vera Cruz, 6			Antwerp, 1	48		Guayamas, 2 cs.			Superphosphates—		
Magnesium Carbonate—			Rotterdam, 1 10	79		Hamburg, 259			Nantes, 207 t. 13 c. 6 q.		
Vera Cruz, 4 cks.			New York, 5 13	232		Iloilo, 1			Tartaric Acid—		
Magnesium Sulphate—			Kalmar, 1	42		La Libertad, 1			Montreal, 12 c.		
Seville, 15 brls.			Malmö, 1	42		Longo, 100			Treacle—		
Sydney, 20			Shanghai, 4	160		Luca, 150			Stockholm, 25 brls.		
Rio de Janeiro, 100 kgs.			San Sebastian, 1 10	60		Matadi, 56			Amsterdam, 65		
Manganese—			Rouen, 1 10	19		Mauritius, 1,000			Antwerp, 65 hf-pns.		
St. Petersburg, 64 t. 13 c.			Potassium Cyanide—			Montreal, 140 dms.	2		Ghent, 20		
Manure—			Smyrna, 1 c. 1 q.	£10		New York, 695	1,057	11 cks.	Hamburg, 75 bgs.		
St. Nazaire, 1,252 t. 5 c. 4 q.	£5,446		Potassium Iodide—			Philadelphia, 1,700			Leghorn, 75 bgs.		
Rocheport, 540	4	3	Maranham, 1 ck.	£77		St. John's, 10			Rotterdam, 95		
Genoa, 126	3	5	Potassium Silicate—			Singapore, 25	100		Terneuzen, 5		
Gd. Canary, 20			Amsterdam, 1 t. 5 c. 1 q.	£6		Smyrna, 65			Turpentine—		
Havre, 200	2	896	Salt—			Soda—			Manila, 50 dms.		
Metallic Sodium—			Baltimore, 350 t.			Calcutta, 100 cks.			La Union, 6		
Rotterdam, 5 t.	£977		Barcelona, 2,092	13 c.		Soda Alkali—			Yarnish—		
Oxalic Acid—			Calcutta, 152			Barcelona, 30 brls.			Genoa, 4 cs. 1 ck.		
Barcelona, 5 t. 2 c.	£130		Fleaburg, 50			Bombay, 8 cks.			Leghorn, 8		
Lisbon, 1	4	3 q. 40	Ghent, 35			Christiania, 23	11 brls.		Gibraltar, 3		
Paint—			Hamburg, 110	15		Havana, 23			Whiting—		
Accra, 43 pks.			Landana, 21	15		Maranham, 60			Maranham, 10 brls.		
Bahia, 2 cks.			Manaos, 17			Montreal, 33 tcs.	80 bgs.		Talcahuano, 40		
Barcelona, 4	750 kgs.		N. Orleans, 900			Naples, 150			Zinc Oxide—		
Beyrout, 20			New York, 89	6		New York, 35	754		Philadelphia, 5 c.		
Bonny, 3 cs.			Opobo, 30			Opobo, 10			MANCHESTER		
Boston, 2			Para, 107	2		Philadelphia, 1,000			Week ending September 11th		
Cadiz, 76 dms.			Portland, 300			Puerto Cabello, 100			Alum—		
Cartagena, 10	5		St. Petersburg, 3	6		Rio de Janeiro, 100			Bombay, 100 brls.		
Havana, 4			Savannah, 504			Salonica, 70			Ammonium Carbonate—		
Las Palmas, 2	50		Smyrna, 590			Santos, 20			Copenhagen, 5 kgs.		
Nagasaki, 190			Sydney, 55			Smyrna, 150			Aniline Colours—		
New York, 14	500		Trinidad, 55			Syria, 100			Rotterdam, 10 cks. 14 cs. 1 brl.		
St. John's, N'd., 6			Accra, 18 15			Vigo, 5			Barcelona, 1 kg.		
St. Thomas, 3			Antwerp, 161 18			Zante, 80			Aniline Oil—		
Talcahuano, 34			Benin, 10			Antwerp, 100			Barcelona, 10 cks.		
Valparaiso, 18			Boston, 100			Baltimore, 30	226 tcs. 176		Rotterdam, 2 dms.		
Alexandria, 50			Christiania, 5			Banoka, 4 t. 10 c.			Aniline Salt—		
Algoa Bay, 1			B. Ayres, 19	1		Boston, 290	35	1,050	Barcelona, 20 cks.		
Amsterdam, 2 cs. 21 pks.			Cameroon, 30			Calcutta, 42			Chemicals (otherwise undescr.)		
Barranquilla, 100			Copenhagen, 5			Copenhagen, 140			Alexandria, 10 cks.		
Cayloma, 35 dms.			Iceland, 100			Libau, 8			Christiania, 28		
Coronel, 5 pails			Iquique, 28 15			Lisbon, 14			Rotterdam, 4		
Havre, 14			Melbourne, 82			Manaos, 10 brls.			Coal Products (otherwise undescr.)		
Jaffa, 5			Old Calabar, 25			Rotterdam, 550			St. Petersburg, 13 pns.		
Lisbon, 2	107	64	Philadelphia, 1,500			San Francisco, 50			Extracts—		
Loanda, 4			Pt. Royal, 1,500			Stettin, 197			Barcelona, 25 cks.		
Manila, 150	25		Quillo, 75			Soda Crystals—			Glue—		
Maranham, 1	3 brls.		St. John's, 500			Boston, 84 cks. 100 bgs. 280 brls.			Rotterdam, 22 cks.		
Rio Grande, 1 cs.			San Francisco, 657			Calcutta, 33 kgs.			Linseed Oil—		
Do Sul, 1 cs.			Talcahuano, 1 17			Havana, 50			Alexandria, 20 brls.		
Rotterdam, 25 pks 27	10 dms.		Wilmington, 499			Malta, 30			Barcelona, 1 ck.		
Shanghai, 80			Salt Cake—			Montreal, 172	150	75	Paint—		
Sierra Leone, 120			Philadelphia, 200 t. 8 c.	£288		Quebec, 50			Jaffa, 26 drs.		
Smyrna, 60			Saltpetre—			B. Ayres, 50			Paint and Linseed Oil—		
Warree, 8 cs.			Bahia, 1 t. 4 c. 2 q.	£28		Gibraltar, 25			Jaffa, 7 cks.		
Painters' Colours—			Maranham, 10	13		Jaffa, 8					
Antwerp, 3 cks.			Ceara, 19	3	23	Philadelphia, 50	420				
Boston, 4	4 kgs.		Soap—			Sodium Bicarbonate—					
Calcutta, 6	80	21 cs.	Amsterdam, 65 bxs. 10 cs.			Alexandria, 20 brls.					
Ceara, 10 brls.	10		Antofagasta, 2			Algoa Bay, 40 kgs. 20 bgs.					
Constantinople, 1			Batavia, 1,000			Antwerp, 15	8 cks.				
Malta, 40 dms.			Boston, 3	100		Baltimore, 300					
Manaos, 25 brls. 53			Cabenda, 20			B. Ayres, 25	25				
Maranham, 30			Caldera, 1			Calcutta, 100					
Montreal, 11			Cape Town, 1,120			Hiogo, 600					
			Congo, 60			Marseilles, 105					

P.	247 t.
am.	300 t.
	5 cs.
	2
am.	1 ck.
	8 dms.
am.	20
loride—	8 cks.
	8 cks.
HULL.	
ending September 7th.	
	20 kgs.
	17 cks.
ancisco,	100 cks.
ium Sulphate—	
ax,	250 bgs.
k,	226
n,	79
dam,	50 cks.
lam,	50
ing Powder—	
en,	127 cks.
	68
	15
	6 cks.
c Acid—	
	25 cks.
Soda—	
	5 cks. 19 kgs.
P,	35 dms.
am,	30
	202
als (otherwise undescribed)	
	106 cks. 1 pkge.
burg,	10 3 cs.
	379 slabs.
burg,	17 10 kgs.
rg,	9
gen,	20
	30
les,	10
ork,	15 50
dam,	46 70 206 pks.
	40 214
	10
ersburg,	20 10 99
olm,	10
eed Oil—	
dam,	251 c.
anaand,	15
burg,	200
urg,	1,341
dam,	626
ger,	78
olm,	105
olm,	50
iffs (otherwise undescribed)	
	6 cks.
ania,	30 bgs.
sberg,	2 cs.
ork,	8 76 dms.
dam,	18 60
	12 cks.
ork,	100
d Oil—	
	20 c.
hagen,	45
ania,	465
iansand,	10
heim,	31
urg,	215
dam,	10
ger,	89
re—	
urg,	303 sks.
rn,	20 t.
al White—	
n,	20 bgs.
haline—	
	80 bgs.
eburg,	16 cks.
olm,	5

Painters' Colours—

Abo,	1 ck.
Amsterdam,	28 1 cs.
Antwerp,	44 1 69 kgs.
Bergen,	80 pks. 2 1
Boston,	15 10
Copenhagen,	6 4 7 dms.
Christiania,	44
Danzig,	23
Gothenburg,	1 pkge.
Hamburg,	3
Konigsberg,	50
New York,	2
Rouen,	13
Rotterdam,	36 pks. 4
St. Petersburg,	2 1 pkge.
Stockholm,	1

Paraffin Wax—

Abo,	20 cks.
------	---------

Phosphorus—

Antwerp,	24 cs.
Gothenburg,	12
Hamburg,	171

Pitch—

Antwerp,	128 t.
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Slag—

Genoa,	98 t.
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Soap—

Drontheim,	50 cs. 6 bdl.
Hamburg,	5
Stettin,	2

Tar—

Amsterdam,	6 cks.
Antwerp,	15
Bremen,	2

Treacle—

Copenhagen,	10 cks.
-------------	---------

Yarnish—

Copenhagen,	4 cans
Gothenburg,	1 cs.
Leghorn,	1 ck.

GLASGOW.

Week ending September 12th.

Acids—

U.S.A.,	£98
---------	-----

Ammonium Sulphate—

Mauritius,	22 t. 13 c.
Venice,	7
Hamburg,	13 10
Demerara,	129 16½
Rouen,	25 5¼

Asbestos—

E. London,	£67
------------	-----

Bleaching Powder—

Bombay,	2 t. 12¾ c.
Sydney,	7 6½

Caustic Soda—

Seville,	28 t. 13 c.
U.S.A.,	20 16

Dye-stuffs—**Extracts****Gelatine—****U.S.A.,****Glucose—**

Cape Town,	16 t. 5 c.
Ottawa,	3

Glue—**Gothenburg,****Linseed Oil—**

Bombay,	18¾ c.
Colombo,	1 t. ¼
Singapore,	4 12¾
Sydney,	8 6½

Litharge—**Johannesburg,****Manganese Oxide—****U.S.A.,****Paint—****Cape Town,****Mauritius,****Painters' Colours—**

Calcutta,	£58
Bombay,	258
Canterbury,	205
Montreal,	35
Penang,	35
Sydney,	628

Paraffin Wax—

Antwerp,	9 t.
Stockholm,	3 6½ c.
Cape Town,	3
Paris,	60

Potash—**Stockholm,****Potash Salts—**

Delagoa Bay,	6 t. 12 c.
--------------	------------

Potassium Bichromate—

Antwerp,	9 t. 19¼ c.
U.S.A.,	564
Philadelphia,	25 8
Bombay,	3 9½
Rouen,	17 2½
Rotterdam,	

Potassium Prussiate—

U.S.A.,	52 t. 15¼ c.
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Rosin Oil—**Philadelphia,****Soap—**

Durban,	4 t. 18 c.
Puerto Cortes,	2 10
Colombo,	15
Demerara,	5
Trinidad,	2 10
U.S.A.,	1

Sodium Bichromate—

U.S.A.,	7 t. 19 c.
Philadelphia,	6 6½
Bombay,	2 ½
Rouen,	43 15¼

Sodium Sulphate—

Stockholm,	1 t. 10 c.
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Sulphuric Acid—

Madras,	£37
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Superphosphate—

Venice,	9 t. 17 c.
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Tar—

Calcutta,	50 brls.
Christiania,	

Treacle—

Algoa Bay,	5 t. 7¼ c.
Durban,	2 5
Gothenburg,	
Stockholm,	75
Christiania,	25 19

White Lead—

Algoa Bay,	£60
E. London,	68

TYNE.

Week ending September 7th.

Alkali—

Amsterdam,	25 t. 12 c.
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Ammonium Chloride—

Gothenburg,	14 c.
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Ammonium Sulphate—

Genoa,	20 t.
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Antimony—

Abo,	6 c.
New York,	37 t. 10
Antwerp,	1
Montreal,	2

Arsenic—

Venice,	4 t. 15 c.
Genoa,	1 1

Barium Chloride—

Montreal,	3 t. 4 c.
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Barytes—

Hamburg,	108 t. 16 c.
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Bleaching Powder—

Copenhagen,	6 t.
Rotterdam,	10 4 c.
Abo,	156 6
Venice,	11 6
Gothenburg,	4 19
Amsterdam,	32 2
Oporto,	13 5
Aarhus,	2 7
Ghent,	24 19
Antwerp,	38 4
Genoa,	6 6
Bergen,	10 2
Hamburg,	45 5

Caustic Soda—

Copenhagen,	5 t. 16 c.
Abo,	150 12
Venice,	2 16
Amsterdam,	4 6
Gefle,	5 14
Harlingen,	10 10
New York,	110 8
Antwerp,	6 11
Hamburg,	26 14
Riga,	10 3
Christiania,	7 16
Montreal,	43 10
Genoa,	19 13

Colours—

Genoa,	1 t. 5 c.
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Disinfectants—

New York,	50 t. 4 c.
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Fluorspar—

New York,	36 t.
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Guano—

Genoa,	10 t.
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Litharge—

Copenhagen,	2 t. 10 c.
Montreal,	25 7
Antwerp,	1 3
Riga,	8 1

Magnesia—

Genoa,	8 c.
--------	------

Manure—

Genoa,	50 t. 1 c.
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Paint—

Abo,	2 c.
Antwerp,	6 t. 10
Hamburg,	1

Soda—

Tromso,	2 t. 15 c.
Rotterdam,	19 18
Abo,	76 2
Amsterdam,	10
Gefle,	5 18
Bergen,	12 3
Oporto,	6 6
Odense,	10 9
Jersey,	10 9
Genoa,	1 18
Christiania,	5

Soda Ash—

Abo,	32 t. 14 c.
Venice,	40 11
Gothenburg,	50 2

Sulphur—

Gothenburg,	85 t.
Antwerp,	5

Superphosphate—

Stettin,	1,240 t.
Venice,	120
Genoa,	100 1 c.

Tar—

Tromso,	2 t. 9 c.
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Yarnish—

Tromso,	4 c.
Genoa,	1

White Lead—

Abo,	2 t. 13 c.
Oporto,	2 9
Montreal,	36 17

GOOLE.

Week ending September 4th.

Benzol—

Hamburg,	49 cks.
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Chemicals (otherwise undescribed)

Hamburg,	22 cks. 50 bgs.
Rotterdam,	20 dms.
Rotterdam,	1

Coal Products (otherwise undes.)—

Boulogne,	36 cks. 3 cs.
Rotterdam,	1

Colours—

Boulogne,	5 cks. 1 cs.
Dunkirk,	12 dms.
Ghent,	2 2 1
Hamburg,	2 3 3 pks.
Rouen,	1

Dye-stuffs (otherwise undescribed)

Antwerp,	2 cks.
Hamburg,	50

Manure—

Boulogne,	27 bgs.
Ghent,	44
Hamburg,	973

Pitch—

Antwerp,	147 t.
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GRIMSBY.

Week ending September 7th.

Alkali—

Hamburg,	18 cs.
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Chemicals (otherwise undescribed)

Antwerp,	10 cks.
Hamburg,	3

Coal Products—

Dieppe,	41 cks. 1 cs. 2 pks.
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Colours—

Antwerp,	1 ck. 2 cs.
Dieppe,	1 pkge.
Hamburg,	30
Malmo,	5
Rotterdam,	2

Dye-stuffs (otherwise undescribed)

Dieppe,	12 cks.
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Manure—

Rotterdam,	20 t.
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Soap—

Antwerp,	1 ck
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THE CHEMICAL TRADE JOURNAL AND OIL, PAINT and COLOUR REVIEW.

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36.

SATURDAY, SEPTEMBER 28, 1895.

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Reports, and correspondence on all matters of interest to the chemical and allied industries, home and foreign, are solicited. Contributors should condense their matter as much as possible, and send only one side of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be sent on separate sheets.

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning at the latest.**

CURRENT TOPICS.

CHEMICAL INDUSTRY IN BRISBANE.

WITH so little doing at home, it is satisfactory to learn that there are promising signs of activity in the chemical trade in some of the colonies. Just now the daily Press has a great deal to say about the revival of trade, and while admitting that there is a slight rift in the cloud of depression that has so long been hanging over us, it is hard not to be somewhat sceptical as to the reality of this much-talked of revival. In fact we feel greatly tempted to think that the improvement must have been chiefly in the sale of the papers that have been talking so very hopefully, owing to such a number of people having eagerly bought copies in the hope of ascertaining in what industries the change for the better had been experienced. From a close acquaintance with the chemical trade, we fear it cannot have truthfully figured among the favoured few, up to the present, at all events.

At Brisbane, however, a new chemical works has recently been completed—an event of some importance in a district where there are so few—and to all accounts is doing satisfactorily. The chief product produced at present is sulphuric acid. This important raw material can now be produced at about half the price formerly paid for imported acid. In addition to the manufacture of vitriol it is proposed to start the manufacture of superphosphates from the sugar plantation refuse; potassium cyanide, which in conjunction with vitriol, is in great demand in the mining districts of Queensland for cyaniding and chlorination purposes, and also compressed carbon dioxide.

ANOTHER BIG MONTH IN THE RAND.

Once more the production of gold in the Rand has topped all previous records with the sum total of 203,573 ozs., an increase of 4,120 ozs. on July, and of 2,632 ozs. on June, in which month the production first exceeded 200,000 ozs. The three principal contributors to this comfortable total have been the New Primrose with 12,206 ozs., Crown Reef 11,531 ozs., and Langlaagte Estate with 11,472 ozs. As far as the returns up to the present show, out of the 38 producing mines only six show a total under four figures.

The steady manner in which the production in this important mining district continues to grow, shows very clearly the bearing the cyanide process has upon this industry. There is every prospect of the monthly production reaching even greater proportions, as the cyanide process, important as it is, is not the only chemical process competing for success in the treatment of slimes and tailings. Both the Sulman-Teed and the Fauvel processes possess the additional advantage of being applicable to ores, which heretofore have proved so refractory as to render their treatment for small quantities of gold too expensive. Chlorination has been done and, is doing good work on this class of ore, but the

intricacies of the process do not compare very favourably with the other methods of treatment, which are comparatively simple and promisingly effective. Altogether the part that chemical processes appear likely to play in the future of gold mining will, we think, be interesting and worth watching.

NEW LAMPS FOR OLD.

Mineral oil lamp accidents have been lamentably frequent during the past few days, and sensationalists can have little cause to complain as long as their appetite is fed at the rate of nine fatalities, in London only, per week.

The attitude of the Home Secretary has apparently drawn a little additional attention to the question of lamp accidents, and now that the London County Council have ascertained how high is the percentage of deaths and fires per year, it is interesting to note how active their inspectors under the Petroleum Act are in giving evidence before coroners' juries, and in assiduously employing arguments for the denunciation of the lamp as a foil to inquiries about the character of the oil. It would be much more to the point if, instead of wasting their breath on vain words about the lamps, they were requested to put in a certificate stating the flash point and source of the oil, and instructed to attend the inquest and answer questions concerning the oil that might be put to them.

It is not very surprising that the London County Council inspectors should be instructed to follow their present line of action, but it is rather an eye-opener when the would-be immaculate *Lancet* takes up the lamp "bogey," and delivers itself of an *ultimatum* on how lamps ought and ought not to be made. Seemingly, this highly-respectable organ has not given the average cheap lamp a very close scrutiny, otherwise it would have noticed that almost all the qualities it deems so essential are to be found. The difficulty is to get people never to do what they ought not to with the lamps when they are burning dangerous oil.

The technical world, let alone the lay members, does not seem as yet to have actually solved in its own mind the question of whether it is the lamp or the oil that forms the element of danger. Before endeavouring to enlighten their brethren they might make this little mental effort. Let us have the best and safest form of lamp, by all means, but do not talk as if by so doing the danger attending the use of such lamps with low flash oil had been laid. The manufacture of small arms has been perfected and carried to such a pitch as to be almost a fine art, but when loaded they are as dangerous as ever they were, and so will "loaded" safety lamps be.

OIL PROSPECTING IN ROUMANIA.—The Standard Oil Company is at work in the petroleum-bearing regions of Roumania.

GOLD PRODUCTION.—**African Gold Recovery:** The directors announce that 61,000 oz. of gold have been recovered at the Rand and 7,100 oz. in other districts (total, 68,100 oz.) during August by means of their MacArthur-Forrest cyanide process. The July total was 64,500 oz. **Crown Reef:** Yield in smelted gold from 120-stamp mill, 7,398 oz.; yield in smelted gold from 120-stamp cyanide works, 4,133 oz.; total, 11,531 oz. The total for July was 11,849 oz. **Wolhuter:** Crushing for August, 1,915 oz. from 4,105 tons; cyanide works, 505 oz. The total for July was 2,420 oz. **Spitzkop Farm:** Produce of 10-stamp mill for August: Mill crushed 857 tons ore, yielding 74 oz.; cyanide gave 195 oz.; total, 269 oz. **Geldenhuis Estate:** Crushed, 15,300 tons; obtained from mill, 5,607 oz. of gold; from tailings by cyanide, 2,181 oz.; total, 7,788 oz. The total for July was 7,779 oz. **Mysore:** 4,440 tons of quartz produced 4,299 oz. of gold; 680 tons of tailings produced 136 oz. of gold; 2,002 tons of tailings (cyanide process) produced 409 oz. of gold. Total production for the month, 4,844 oz. of gold. **Paarl Central:** Mill crushed 5,103 tons, yielding 2,176 oz. of gold; cyanide works treated 2,703 tons, yielding 962 oz. of gold; total, 3,138 oz. of gold. Total value, £11,000. For July the total yield was 3,126 oz.

THE BRITISH ASSOCIATION.

CHEMICAL SECTION.

Professor R. Meldola, in his presidential address to this section, said:—

The so-called "new chemistry" was being evolved about the time when the British Association last assembled at Ipswich in 1851; was not till some years later that the modern views became accepted chiefly through the writings of Laurent and Gerhardt. Since the kinetic theory of gases has acquired its full significance; and thermo-chemistry has arisen as a distinct branch of science. The modern theory of electrolysis, associated with the names of Arrhenius, van't Hoff, and Ostwald, dates from 1878, when it pointed out the relationship between electrolytic conductivity and chemical activity. Closely connected with electrolysis is the work done in connection with osmotic pressure. In 1887 van't Hoff formulated the modern dissociation theory of solution by applying it to substances the laws of Boyle, Gay-Lussac, and Avogadro's law of osmotic pressure, and Raoult's law connecting the depression of freezing point with molecular weight, and thus founded a doctrine which has exerted a great influence on contemporary chemical thought. The whole subject of spectrum analysis was brought into existence by the celebrated work of Bunsen and Kirchhoff, published in 1859, in that direction which brings chemistry into relationship with physics. Pasteur has created a new science, the science of bacteriology, with manifold and far-reaching consequences. And finally, among the great developments achieved since 1851 may be chronicled the generalisation, viz., the periodic law connecting the atomic weights of the chemical elements with their physical and chemical qualities.

The new era which was dawning in 1851 was that of structural constitutional chemistry, based on the doctrine of the valency of atoms. The conception was broached by Frankland in 1852 as a result of his investigations on the organo-metallic compounds. Years later Kekulé and Couper almost simultaneously recognised the quadrivalent character of carbon. Perhaps no conception so prolific of results has ever been introduced into any department of science. The course of discovery during these years began to take itself into two fairly parallel channels, the one comprising labours on the physical side, the other containing the domain arising from the valency doctrine and its extension to the structure of chemical molecules. We have one class of workers dealing with the physics of matter in relation to general chemical properties, another class concerning themselves with the special properties of individual compounds and classes of compounds—with their idiosyncrasies. The investigators of one class are different from while their colleagues are integrating. The successful application of the doctrine of valency to the compounds of carbon helped its extension to all compounds formed by other elements. The use of structural formulae must now be regarded as the key to the science. The fact, however, that the doctrine in its present form is empirical is perhaps not sufficiently insisted upon. The physical reality underlying the conception of valency, if for no other reason, because of the conformability of this property of the atoms to the periodic law. But the doctrine as it stands is empirical, is that it is only representative and not explanatory. It has yet to be rationalised. And there is something to be reckoned with in valency. The one great desideratum of modern chemistry is a rational, a physical or mechanical interpretation of the capacities of the atoms. Attempts at the construction of such a theory have so far been only tentative. And any attempt to break down the rigidly static conception of our structural formulae seems to be in the right direction. Pending the rationalisation of the doctrine of valency its promulgation must continue in its present form. It is in the construction of rational formulae especially within the domain of isomerism, have been incalculable. The great development of the doctrine in the hands of Le Bel and van't Hoff by the introduction of the stereochemical hypothesis in 1874 is the greatest advance in structural chemistry since the recognition of the quadrivalent character of the carbon atom. But it must be borne in mind that the doctrine of structure is not necessarily bound up with the hypothesis of isomerism in its present form. The two ideas have grown up together, but experimental evidence that in any molecule the atoms are put together in a particular way is really independent of any theory of valency. It is only after this evidence has been acquired, either by analysis or synthesis, that the hypothesis in building up the structural formula is applied. In several points of application the inadequacy of the hypothesis becomes apparent. The doctrine fails in the mental requirements of a scientific theory. In its present form it has no power of prevision. It hints at possibilities of atomic groupings but it does not tell us *a priori* which of these groupings are likely to be stable and which unstable. There is yet hope that the advance in the required direction may come from the stereochemical

e hypothesis, although the attempts hitherto made toencies must be regarded as more or less tentative.

THE NEW THEORY OF ABSTRACT TYPES.

ears it has been customary to abstract from structural n ideal complexes of atoms, considered to represent the e from which the compound of known constitution is e hypothesis of valency originally developed from es is now leading back to another theory of types based intimate knowledge of atomic grouping within the some cases these types have been shown to be capable of others they are still ideal. Used in this way the doctrine ost suggestive, but at the same time its lack of prevision rcing itself upon the attention of chemical investigators. npound has sometimes been known before its derivatives, t ammonia, which was known long before the organic ides. In other instances the derivatives were obtained was isolated, as in the case of the hydrazines and the unds. The utility of the hypothesis is strikingly the wonderful development which our knowledge of the trogen and carbon has undergone within the last few l, the theory of types which is the outcome of the study ructure is capable of almost indefinite extension if, as eason for doing, atoms of groups be replaced by their ues in the way of other atoms or groups of atoms. When sible to prove that one particular configuration of certain le and another configuration impossible, then will have that great advance which the science is awaiting—the two channels above reverted to. The present position emistry may be summed up in the statement that we enormous insight into the anatomy of molecules, while of their physiology is as yet in a rudimentary condition. premature to pronounce an opinion as to whether the ent is to be looked for from the stereochemical side; but e be expressed that the geometrical representation of ve a deeper insight into the conditions which determine f atomic configurations. The speculations of A. v. enus, Victor Meyer, Wunderlich, Bischoff, and others urned the attention of chemists towards a quarter from ght may eventually dawn. The greatest of the triumphs hemistry is the synthesis of natural products—i.e., of ich are known to be produced by the vital processes of lants. About 180 such syntheses have been realized. est of all work in this field arises from the ability to atory processes compounds which are also manufactured ratory—the living organism. It is in this direction that

CHEMISTRY ENCROACHES UPON BIOLOGY

logy. Now, if we confine the notion of synthesis to the molecules from simpler molecules or from atoms, we nature's methods of producing many of these very come claim to have synthesized. A large proportion of the ts which have been prepared artificially are not the animal or plant in the sense of building up at all. results of katabolism or breaking down of complex simpler ones. And, as in nature, so in the laboratory esis should be held to comprise both katabolism and ided always that the more complex molecule of which is produced can be synthesized from its constituent do not thus expand the meaning of synthesis we are y the door in nature's face. The real value to the ich these syntheses give is the suggestion that a certain possibly result from the katabolic degradation of an pound, and not from an anabolic process of building up olecules.

ast year, at the Oxford meeting, that Lord Rayleigh and say announced the discovery of a gaseous constituent ere hitherto undetected. Lord Rayleigh isolated it by Cavendish. Professor Ramsay, quite independently, s by removing the nitrogen by means of red-hot he two investigators then combined their labours and e subject. Their memoir on this gas, argon, will go ity among the greatest achievements of an age renowned ctivity. Professor Ramsay had also isolated helium, a y means of the spectroscopy in the solar chromosphere orman Lockyer in 1868. It must be gratifying both to yer and to the whole chemical world to know that w be removed from the category of solar myths and ene elements of terrestrial matter. Like argon, helium is chemically inert so far as the present evidence goes. It representatives of a new group of monatomic elements y chemical inertness have thus been brought to light. helium has not only furnished another link proving matter, and, by inference, of origin between the earth

and the sun, but an extension of the work by Professor Norman Lockyer, M. Deslandres, and Mr. Crookes has resulted in an interesting discovery that a large number of the lines in the chromospheric spectrum, as well as in certain stellar spectra, which had hitherto found no counterparts in the spectra of terrestrial elements, can now be accounted for by the spectra of the gases contained with helium in these rare minerals. The question now to determine is whether these gases are members of the same monatomic inert group as are argon and helium.

Reports of Companies.

PRICE'S PATENT CANDLE COMPANY, LTD.

An extraordinary general meeting of this Company was held last week at the Cannon-street Hotel, E.C. Mr. T. C. Wright, who presided, remarked that the sole object of their meeting was to declare a dividend which would be the 70th that had been paid by their company. Their business during the past year had been prosperous, and the profits had considerably exceeded those of 1894, but he wished them all to understand that those profits had been earned in exceptional circumstances. In the first quarter of this year they did a very large business, which in ordinary times would either not have been done at all or would have been left to be done in the second half of the year. The price of paraffin was raised last January, and they and other candle-makers advanced their prices proportionately, but this did not affect their customers who had contracts with them up to the end of March, and who took the largest quantity they could from the company at the lower price. If they took the report for the first half of 1894 it would be seen that they brought forward £8,311. from December, 1893, and that the profit for the six months, less tax, was £25,301., making together £33,612., out of which a dividend of 10s. a share was paid, leaving £14,862 to carry forward to July, 1894. As regarded the first half of 1895, they brought forward £8,843. from December, 1894, and the six months' profit, less tax, was £35 10s., making together £43,945. The dividend of 15s. a share now recommended would absorb £28,125., leaving £15,820. to be carried forward. The profit for the first half of 1895 thus exceeded that of the corresponding period of 1894 by £9,801., or about 40 per cent.; and the dividend this time was 50 per cent. higher than it was for the first half of 1894. This was a very agreeable statement, but they must not suppose that it represented a normal state of things, or that it was going to continue. He was the more disposed to say this as he saw that the market price of their £16. shares was now £35. This showed that they were regarded as a gilt-edged security, but the board did not altogether view the present market value of the company's shares with satisfaction, because, probably, people who gave this price for them might expect to receive a good dividend on the premium they paid, whereas the company were only earning a dividend on the par value of the shares. He concluded by proposing a resolution for the payment of a dividend of 15s. per share, tax free. Sir Peter Spokes seconded the motion, which was carried unanimously.

LAMP ACCIDENTS.—Last week at the Hackney Coroner's Court an inquiry was held by Dr. Wynne Westcott, coroner, respecting the death of John Thomas Hoy, aged 21 years, a butcher, lately residing at 21, Smalley-road, Stoke Newington. John Hoy, a gardener, said that deceased was his son, and on Sunday morning last he returned home, after closing his shop, about half-past one. Witness went to bed, but shortly afterwards heard screams, and running out on to the landing, saw the deceased coming upstairs with his clothes a mass of flames. Witness tried to catch hold of him, but could not, and then deceased took a running leap through the back window, alighting in the back yard. Witness went to him, and threw pails of water over him, and put out the flames. A doctor was summoned, and by his advice the deceased was removed to the German Hospital, where he died shortly after admission. Witness said that when he went to bed he left a petroleum lamp burning on the table, and afterwards that was found smashed to atoms on the floor. The table was also upset. Colonel Rudd, inspector of the London County Council under the Petroleum Act, said he had nothing to add to the many suggestions already made by the County Council as to the use of safety lamps, which would undoubtedly prevent the lamentable loss of life which now occurs. A Juror: Most of the common lamps are defective, and something should be done to prevent their sale. The jury returned a verdict of accidental death. This is the ninth case that has occurred in London within a week.—Another fatal lamp accident occurred at Gloucester on Monday night. Mrs. Elizabeth Eivers, the mother of ten children, was carrying her baby upstairs when the petroleum lamp which she carried in her left hand, struck against the wall. It capsized, and set the woman on fire, burning her in a terrible manner. She died in Gloucester Infirmary on Tuesday morning.

Modern Oil Engines.

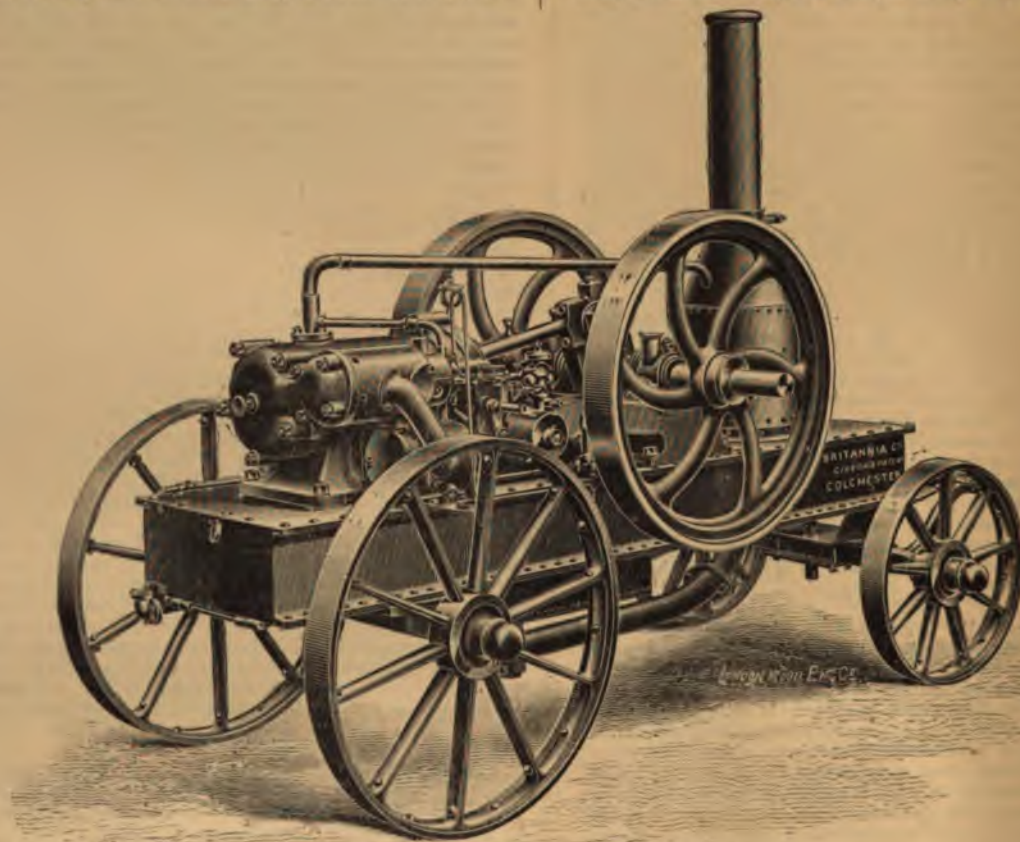
THE "FACILE" ENGINE.

This engine is made by the Britannia Co., Colchester, on the principle of Gibbon's Patent. The chief feature is the simplicity of the valve arrangements. There is only one valve, and that can be taken out and cleaned, and again replaced in ten minutes.

The advantages of the engine appear to lie more in the features that it does not possess, rather than those which it does possess. Thus there is no lamp required, except for a few minutes during the initial heating of the explosion chamber, which is separate from the cylinder, and prevents the latter being unduly heated. There is thus no vaporizer, no ignition by electric spark, and no heating tube or blowing fans. The oil is injected directly into the cylinder, the waste heat being utilized to heat the in-going charge. In this way economy in oil is ensured, and the cooling water is considerably reduced. The circula-

OAK-BARK SUBSTITUTES IN TANNING

THE German tanners are now adopting the use of quebracho and other tanning materials such as divi-divi, myrobolams, ja mimosa, valonia, algarobilla, &c., in place of oak-bark. The industry of Germany has shown great progress in recent years, new tanning material of quebracho has produced a revolution in upper and sole leather. Quebracho is now used all over G and in other countries on the Continent. Quebracho wood is principally in logs and on sailing vessels. It came originally from the province of Santiago, in Chili, but this source of supply is becoming exhausted. In recent years, in the Argentine Republic extensive forests of quebracho have been opened up. Of quebracho varieties are known, the red and the white. Red quebracho contains more tannin than the white, the average contents being from 18 to 20 per cent. Considering the intrinsic value of this tanning material cheaper than oak-bark, and nearly as cheap as hemlock. Ow-



tion of the cooling water is conducted in an ingenious fashion, and, when heated, is passed into a spraying chamber, where its excessively fine comminution speedily reduces the temperature.

Any kind of ordinary petroleum can be used, but no light spirit is required for working the engine. The cost is about a halfpenny per horse power per hour, while there is a satisfactory absence of smell. This type of engine is only made for portable engines, launch engines, and horseless carriages, and not for stationary types. We illustrate a handy-sized portable engine.

PERSONAL.—We learn that Mr. A. C. J. Charlier has resigned the general managership of the White Lead Company, Ltd., and has taken up the position of managing director of the newly formed Scottish Oil and Chemical Company, Ltd., particulars of which were given in our issue of 7th inst.

AZO YELLOW.—The Farbwerke Mühlheim vormals A. Leonhardt and Co., is calling attention to their azo yellow, otherwise called solid or fast yellow, which, when dyed on wool, silk, or paper, will satisfy the greatest exactions regarding fastness to light, being specially suitable therefore for the dyeing of carpet yarn.

very high percentage of tanning qualities, quebracho contains but a small proportion of so-called non-tanning substances, and in respect it has much resemblance to gambier. These non-tanning substances are an important factor in the manufacture of leather, they fill and nourish the leather, and also impart the necessary softness to liquors, although not assimilating in a direct manner with the hide. Quebracho, it is stated, does not possess a sufficient quantity of these non-tanning properties to yield well-nourished leather, its use, therefore, is only to be recommended in combination with agents stronger in non-tanning substances. The supply of quebracho may be considered inexhaustible. Nearing the 31st degree of latitude in the Argentine Republic, the pampas, the largest grazing lands in the world, gradually develop into immense forests known as quebracho. Formerly quebracho wood was obtained only from the mountains bordering on the Parana River, but now transportation is possible, and gigantic saw-milling enterprises have been established which develop the untold wealth of the chaco, and send the products to market. It is stated that the tract of country contains a fabulous amount of quebracho wood, practically an inexhaustible amount; while the present yearly consumption is but one million cords. Ten years ago the exports of wood from the Argentine Republic

THE VALUATION OF NITROGENOUS FERTILIZERS.

IN a paper read before the Washington Section of the American Chemical Society, Mr. H. C. Sherman gives an interesting review of the modifications of the Kjeldahl process that can be relied upon for the estimation of the nitrogen in fertilizers containing nitrates.

As soon as the accuracy of the Kjeldahl method for the determination of nitrogen was generally recognised, attention was turned toward the discovery of some simple modification by which it could be made applicable in the presence of nitrates.

Asboth (*Chem. Central.*, 1886) recommended the simple addition of benzoic acid to the decomposing mixture. It was soon found that this method was not sufficient.

The following year, two methods were brought before the Association of Official Agricultural Chemists, one by Mr. Scovell, the other by Mr. Farrington. The principal difference consisted in the use of salicylic acid with the sulphuric acid to fix the nitrogen oxides by the former, while phenol was used for the same purpose by the latter. Both used zinc dust as the reducing agent. The Scovell method was adopted and remains practically unchanged.

In 1890, the association sanctioned the use of zinc sulphide as a reducing agent. In case of its use the acid mixture was to contain one gram. of salicylic acid instead of two. The use of zinc dust with two grams. salicylic acid was retained.

In 1892, sodium thiosulphate, which had been used for reducing nitrates in the Ruffe method, was adopted as a third reducing agent, and it was directed that five grams. of the crystallized salt should be added "direct."

In 1893, the use of zinc sulphide was dropped (because this reagent was likely to contain nitrogen), and a modification of the Gunning method was adopted. In the latter, five grams. of thiosulphate and one gram. of salicylic acid were used with the same amount of potassium sulphate as in the plain method (ten grams.). It was claimed that all the reagents could be added with the substance, but further trials disproved this, and in 1894 the requirement of first mixing the substance with the acid mixture was made practically the same as in the modified Kjeldahl.

It has been the experience of the writer, and the amount of work which has been done by the association indicates that it is the same with others, that the determination of nitrogen in fertilizers containing nitrates is attended with greater difficulty than in those free from nitrogen in this form. In the hope of discovering whether this is due to any considerable extent to the official methods, and, if so, the reasons therefor, the following experiments were undertaken.

A set of four samples was first prepared, composed of the following materials:—

No. 1, sodium nitrate, ammonium sulphate, potassium chloride, acid phosphate.

No. 2, sodium nitrate, bone phosphate, dried blood, ammonite, marl filler.

No. 3, sodium nitrate, tobacco stems, cottonseed-meal, castor pomace.

No. 4, sodium nitrate, dried fish, natural guano.

In each case all the materials, except the nitrate, were first mixed, ground to pass through a five-tenths mm. sieve, and air-dried. Nos. 1, 2, and 3 were then mixed again, and the percentage of nitrogen carefully determined by both the Kjeldahl and Gunning methods. The guano used in preparing No. 4 contained a small amount of nitric nitrogen, and could not be determined in this manner.

An air-dried sample of sodium nitrate was then ground to pass through the same sieve, and its nitrogen content determined by the silica fusion method. This sample was then carefully mixed with those above described in such proportions as to give to each the desired percentage of nitrogen. Nos. 1, 2, and 3 were calculated to contain ten per cent., eight and one-half per cent., and eight and one-half per cent. respectively. No. 4 was expected to show about eight per cent. These percentages are as high as are likely to be found in ordinary mixed fertilizers.

The materials employed represent all the general classes of ingredients commonly used in this section, and since no one of them composed less than 15 per cent. of the mixture in which it occurred, any effect which it might tend to produce would be almost sure to be noticeable in the result.

The results on these mixtures by the official methods are given in Table I.

TABLE I.—PER CENT. NITROGEN FOUND IN KNOWN MIXTURES.

No.	Calculated.	Modified Kjeldahl Zinc dust.	Modified Gunning.
1	10.00	9.93	9.80
2	8.50	8.51	8.50
3	8.50	8.48	8.50
4	—	8.12	8.08

Except in the case of No. 1, the figures given are the average (and only two) determinations. The greatest difference in duplicates was 0.08 per cent.; the average difference 0.03 per cent.

Four determinations were made by each method on No. 1. are given below.

The official methods as given on page 347 (Bul. 43, U. S. 1 Agr., Division of Chemistry) were followed closely with the following additional precautions:—

1. In working the modified Kjeldahl method, the zinc dust was through a funnel tube, very slowly, and with constant shaking. Two minutes is required to add the zinc dust in this way. At first boiling, the flasks were allowed to cool somewhat before mercuric oxide was added.

2. In the modified Gunning method, the boiling was continued thirty minutes after the contents of the flask had become colourless.

To test these points determinations were made on Nos. 2, 3, without the precautions noted, but in every other way as above. Average results, together with those given above, are shown in Table II.

TABLE II.—SHOWING EFFECT OF PRECAUTIONS NOTED ABOVE.

No.	Calculated.	As above.	Modified Kjeldahl. Zinc added in three to five portions and HgO at boiling heat.	As above.	Modified Gunning. Boiling when colourless.
2 ..	8.50	8.51	8.47	8.50	8.50
3 ..	8.50	8.48	8.46	8.50	8.50
4 ..	8.10	8.12	8.05	8.08	8.08
Average	8.37	8.37	8.33	8.36	8.36

It is noticeable that the duplicates agreed about as closely as the precautions were taken, but the results were in every case 1. The average discrepancy was, in the Kjeldahl, 0.04 per cent.; in the Gunning, 0.14 per cent. It would seem, therefore, that both precautions are advisable, and the second absolutely necessary, when working with high percentages.

Table III. shows the results obtained on No. 1 by the modified Kjeldahl and Gunning methods, and by Winton's modification latter.

TABLE III.—RESULTS ON SAMPLE NO. 1.

Calculated.	Modified Kjeldahl.	Modified Gunning.	Winton's Mod.
10.00	9.93	9.86	10.00
....	9.98	9.72	9.97
....	9.97	9.83	9.99
....	9.84	9.80	10.00
Average ..	9.93	9.80	10.00

The results by Winton's method are highly satisfactory; the Kjeldahl hardly so when compared with the other sample the Gunning gives results which are entirely too low to be called.

Winton's modification of the Gunning-Kjeldahl method is as follows:—The substance is treated with the usual acid mixture allowed to stand two hours, with frequent shaking. Two g zinc dust are then added, and the first heating performed as in the Kjeldahl. Potassium sulphate is then added, and the mixture finished as in the Gunning method. It is, therefore, a combination of the two, with the improvement of the long digestion in the mixture. To return to the results on sample No. 1, since the mixtures contain more or less phosphoric acid, the only sulphate peculiar to this sample are ammonium sulphate and potassium sulphate. Since ammonium sulphate is formed in the process, and is the form of all nitrogen present, its presence in the sample could account for the discrepancy, which, therefore, appears to be due to chloride.

(To be continued.)

THE PEOPLE'S PALACE TECHNICAL SCHOOL.—In the Kensington examinations last year, the day school obtained 2 first, 4 honours second; 56 adv. first, 131 adv. second; 455 elementary passes. Evening classes, 4 hon. first, 7 hon. second; 23 adv. 5 adv. second; 200 elementary passes in science subjects. In 1 to these, 11 first, 68 second, and 47 elementary passes were obtained by the day school in mathematics, and 3 first, 26 second, and 7 in the evening class students. Among the latter are included 10 who were successful in the department examination in conic and differential and integral calculus. In art, the day school obtained 121 first and 138 second, and the evening classes 2 excellent, 11 and 135 second. In the evening classes successes were 1 obtained in the City and Guilds examination and in those university of London. Out of 50 London County Council exhibitions awarded to students from various polytechnics, 1 obtained by those from the People's Palace. The chemical lab has been entirely re-fitted through the generosity of the I Company.

Correspondence.

do not hold ourselves responsible for the opinions expressed by our correspondents.

OXIDE OF ZINC.

(To the Editor of the Chemical Trade Journal.)

Would you or any of the readers of the *Chemical Trade* give me (through your correspondence columns) the following information:—

If there is any oxide of zinc manufactory in this country.

Where can I obtain the best article or standard work on the nature of zinc oxide.

Is there any difficulty in making oxide of zinc to pay in this—Yours etc.,

OXIDE.

INSANE COMPETITION.

(To the Editor of the Chemical Trade Journal.)

There is, I suggest, a greater evil than that which "Manu" describes in your journal of 14th inst. (p. 164), and that is the tendency to increase production in order to reduce cost, though, on our so-called free trade principles, a foreign manufacturer at that principle of increase with impunity. Assume a foreigner par with an English producer, assume raw material 25 per cent. and labour 50 per cent., management 25 per cent.; by the output the management would probably come to 12½ per cent. let us say 15 per cent., the foreign producer could send his wares to England, and sell 10 per cent. below English prices, gain extra 10 per cent. for his home trade. A noble peer in our days would have sung—

Let learning, arts, and commerce die,
But give us still our free trade policy.

Yours, &c., B. B.

DISASTER ON BOARD S.S. JONA.

(To the Editor of the Chemical Trade Journal.)

Will you permit us through the medium of your columns draw attention to a method whereby such frightful disasters on the s.s. *Jona* may be greatly limited or altogether avoided?

The risk of fires in saloons or state-rooms could be greatly reduced, if not eliminated, if the partitions and ceilings were covered with "Salamander" embossed decorations, which are non-inflammable and capable of being coloured to taste to suit. In the case of lamp and store rooms where decorations are required, ignition of woodwork could be readily prevented by covering walls and ceilings with asbestos millboard, or constructing them of specially prepared asbestos plates, composed chiefly of asbestos, so indurated, as to be suitable for partitions or ceilings, and being scantling only to support them in position.

The advantage which may be confidently claimed for the use of these asbestos plates on board ship would be, that in the case of fire in any cabin or in the way described, there would be little if any risk of it spreading beyond the point at which it commenced, and in this way the risk would be enormously reduced and the fire much more easily controlled.

In addition, that the same suggestions are equally applicable to, particularly to warehouses, stores, factories and workshops, the contents render the chances of fire great.—Yours, &c.,

THE UNITED ASBESTOS COMPANY, LTD.

Trade Notes.

THE SHALE MINERS' DISPUTE.—The Scotch shale miners' dispute has been admitted to have collapsed. The manager of the Broxburn company, as a result of an interview with the men, reports that they are anxious to resume work, and that the output is up to the normal level.

THERMO-CHEMICAL CELL.—A new thermo-chemical galvanic cell has been described in the *Comptes Rendus*. M. Korda, the inventor, has found that a peroxide of redness in contact with a carbon plate, till the peroxide is reduced to baryta, with the attendant phenomenon of a current of electrical potential of about one volt, the carbon plate acting as the negative.

DR. BLATHERWICK.—It is with much regret that we learn of the sudden death of Dr. Blatherwick, who up to 1892 held the appointment of Inspector of Alkali Works in Scotland, at which period he was pensioned. Dr. Blatherwick was also a well-known author, contributing serials to *Good Words*, paintings to the Scotch and black and white sketches to illustrated papers.

A NEW POWDER.—Another smokeless powder has been invented by Dr. R. Schupphaus and Mr. Hudson Maxim, and its claims are being demonstrated in the United States. The composition of the new explosive is (about) 90 per cent. proxylin or gun-cotton, with about 9 per cent. of nitro-glycerine, and from ¼ to 1 per cent. of urea. It is a true colloid, being perfectly amorphous or structureless, and exceedingly hard and horn-like.

MESSRS. W. OXLEY AND CO.—We are in receipt of the new price list of this well known firm of oil storage and heating tank makers. The producing power of the firm has been considerably augmented by their comparatively recent removal to new works. They make a number of mixing and heating appliances useful to chemical, oil, and paint manufacturers, who will not regret looking over this new catalogue. In writing ask for list D, fourth edition.

STREET FLOODED WITH VITRIOL.—A cart laden with six carboys of vitriol overturned in the roadway at Blackburn on Monday, the contents flooding the road, which was crowded at the time, and several persons, not aware of the dangerous character of the liquid, narrowly escaped injuries from burns. The police from Copy Nook Station quickly appeared, and prevented further danger by deluging the road with water. The driver of the cart, who was thrown out, escaped with a bruised leg.

THE PETROLEUM TRADE CONFERENCE.—According to the *Hamburgische Boersenhalle*, contrary to reports current in other quarters, the conference recently held in Paris of the representatives of the Standard Oil Company and the Russian petroleum firms for the conclusion of an agreement regarding the division of the petroleum trade in various countries, has not yet led to a definite result. The petroleum import trade at Sourabaya (Java) is reported to be exceedingly active, the arrivals of the oil having recently been very heavy.

THROWING CAUSTIC SODA.—On Wednesday the county magistrates at Huddersfield were engaged for the greater part of the afternoon in hearing a charge against Fred Whitwam, 15, dyers' labourer, of having thrown some caustic soda in the face of a little boy named Willie Horner, aged about six years. The defendant is employed at the works of Messrs. B and J. Whitwam, Stanley Mills. It was alleged that on the 11th September, as Horner was looking through a window, the defendant threw from a pot some caustic soda, which alighted on his face. The result was that he lost the use of one eye completely. It was contended for the defence that the defendant thought the pot contained only water, and that the whole thing was an accident. The Bench committed the defendant for trial at the assizes, but allowed bail.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzol is a shade firmer at 1s. to 1s. 0½d. for 90's and 1s. for 50/90's. There is practically no change in carbolic acids, crude 60% is slightly easier at 1s. 6½d., but 40% crystals are unaltered. Naphthas are quiet, crude standing at 5d. and solvent at 1s. Creosote and anthracene easy. Pitch firm, with a good business doing on East Coast at 38s., f.o.b.

Sulphate of ammonia continues to rule easy. The lowness of prices is leading to an improvement in the demand, which makers seem more disposed to satisfy in the face of present stocks and the approaching season of full production. Prices for spot are:—Beckton £9., London outside makes £8. 17s. 6d., Liverpool £8. 17s. 6d. to £9., Hull £8. 16s. 3d., and Leith £8. 15s. There is nothing doing for forward delivery, though £9. 5s. is offered in the North.

REPORT ON MANURE MATERIAL.

The market must again be reported quiet, without any improvement in values. Business continues to be done in 75/80% Florida phosphate rock at about 6½d. per unit, c.i.f. Continental ports, and this is the quotation for United Kingdom. The quotation for Peace River rock is 6d. per unit. The value of South Carolina River rock and similar grade Algerian is perhaps a shade under 5½d. per unit. Several cargoes of River Plate bones have changed hands, it is understood, at £4. 2s. 6d. per ton for those of large size. For small cargoes sellers ask £4. 5s. Some business has been done in crushed Kurrachee bones, autumn shipment at £4. 2s. 6d. per ton, and this price would do for Bombay bone meal. Nitrate of soda is quiet at 7s. 9d. per cwt. for ordinary quality, and 8s. per cwt. for refined. Autumn shipments are worth 7s. 10½d. per cwt. to 8s. Some prepared dried blood offers at 8s. per unit, delivered free to rails at works.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade business continues fairly active, the demand for export generally being well maintained. Bleaching powder sells freely for spot and forward delivery at £7. 5s. to £7. 10s. per ton, hardwoods, f.o.b. Liverpool; £7. per ton, f.o.r. makers' works. In alkali, 58%, forward business has been a little checked by recent advance, but sellers are firm at £3. 7s. 6d., bags, f.o.r., both for prompt and forward delivery. Soda crystals unchanged at 37s. 6d. per ton, bags, f.o.r. Leblanc soda ash quiet, and nominally still 1d. per degree, f.o.b. Caustic soda is in fair request, but values are unchanged either for prompt or forward; nearest spot quotations are as last week, viz.:—F.o.b. Liverpool, 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 60%, £6. 10s. nett per ton, 10-ton lots and upwards. Chlorate of potash, 4½d.; chlorate of soda, 6¼d. to 6½d. per lb. Sulphur in all grades still selling at low prices. Sulphate of copper £16 10s., f.o.b., and is well maintained. White arsenic continues scarce and in good request at £15. nett, Garston. Demand is still good for potash, caustic and carbonate, and they are held firm in price. For acetates of lime there is little inquiry, and stocks heavy. Other acetates in similar position. For acetate of soda there is better demand. White sugar of lead weaker at £21. 10s., c.i.f. Yellow prussiate of potash 7½d. to 7¾d. per lb. Prussiate of soda 6½d. to 6¾d. In nitrate of soda the tendency of the market is to greater firmness for forward delivery. Carbolic acids in all grades still neglected, and the only business doing is at slightly under nominal prices. For aniline oil and salt the demand is quiet, and prices are unaltered at 5¼d. and 4¾d. respectively. There are some reports and indications of improvement in demand and values for chemicals.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is very firm, both in price and position. Lagos has been selling ex quay and forward at £21. 10s., and Accra £20., and soft oils £20. 5s., all transit. Olive continues in good demand, and prices are well maintained. Linseed is still quiet, with Liverpool makes at 21s. 3d. to 22s. 6d. per cwt. in export casks. Cottonseed keeps firm in its present position, Liverpool refined being quoted 17s. 6d. to 18s., and American 17s. 9d. to 18s. per cwt. Castor oil, though rather easy in price, is steady, there being no change in the quotations for either good seconds Calcutta or first pressure French. Tallow is in moderate demand at full prices. Resin is moving more freely, there being a satisfactory business doing at full prices. Spirits of Turpentine are steadier, 20s. 9d. to 21s. per cwt. now being quoted, with a fairly good inquiry. Petroleum is the same as last reported, with American at 6d. to 7½d., and Russian refined 5½d. to 6d. per gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15. Derbyshire, common, 40s.; medium, 50s.; best, 60s.; Welsh, best, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead unchanged. Venetian red, £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide, £22. 10s. to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The uncertainty as regards the supply of mineral oils and paraffins is not quite done away with, but the probability is that peace will be kept between miners and masters in the meantime, and that the market will not be influenced from that quarter. The firmness of the masters has been taken sensibly by the men, and there is no talk of reduction of output, except in unimportant cases here and there. Prices are unchanged, and the tone of the market is healthy, particularly in the section of lubricants. General chemicals show hardly any change, and the feeling is to the side of improvement, though only in a light degree. Sulphate of copper is a shade easier. Both soda crystals and bleaching powder are reported scarce, but quotations show no further change. Sulphate of ammonia is in a worse case than ever, having been offered pretty freely of late days at £8. 15s. Lower has been spoken of, but this wants authenticating. Buyers for spring supplies offer about £9. 5s., but makers, believing in some early recovery, will not look at that.

Chief prices current are:—Soda crystals, 37s. 6d. nett, Tyne; soda ash, 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, 48/52°, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett, Glasgow; caustic soda, white, 76° £9. 5s., 70/72° £7. 15s., 60/62°

£6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; b powder, £6. 5s. to £7. nett, Tyne; saltcake, 20s.; borax, refined, £20., and boracic acid, £30. nett, Glasgow; bicarb soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, L. bichromate of potash, 4½d. nett, for Scotch and English delivery, 4¼d. nett, f.o.b. Glasgow; bichromate of soda, 3¾d. Scotch and English deliveries (for export, 3½d. nett, f.o.b. G. chlorate of potash, 4¾d. less 5%, Liverpool; nitrate of soda to 8s. 3d.; sulphate of ammonia, £8. 15s. prompt, f.o.b. sal ammoniac, first and second white, £39. and £37. nett, a sulphate of copper, £16. 12s. 6d., less 5%, Liverpool; paraffin hard, 2½d.; and soft, 1¾d. to 2¼d. per lb.; paraffin wax 1: refined, 2½d. to 2¾d.; paraffin spirit (naphtha), 8d. per paraffin oil (burning), No. 1 6¼d., and crystal 6¼d., at w Scotch buyers (English sales about 1d. lower); ditto (lubricat £4. 10s. to £5.; 885° £5. to £5. 5s., and 890/895° £5. 10 10s. Week's imports of sugar at Greenock were 28,957 l unrefined.

TYNE CHEMICAL REPORT.

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Chemicals: The demand is maintained, and stocks in makers are very low. Soda crystals, £2. 2s. 6d. to £2. 5s.; powder, £7. 10 to £7. 5s.; sulphur, £3. 17s. 6d. to £4. per ton quotations are as follow:—

Bleaching powder, softs, £7. 5s. per ton, nett; hards, £7. 10 nett; caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per soda ash, 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. ton, nett; do., 56%, £4. per ton, nett; alkali, 36%, per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 15s. per ton, nett; do., 52%, £5. per ton, nett; hyposs soda, 5-7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. per ton, nett; soda crystals, casks, £2. 5s. gross weight; do., 2 cwt. bags, £2. 5s. per ton, nett chlorate of potash, 5d. per lb., less 6%; pearl b £3. per ton, nett; pure white sulphate of alumina, £4 per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. nett; aluminate of soda, £33. 15s. per ton, nett; in 5 £28. 10s. per ton, nett.

SALT.—South Durham salt is steady at 9s. to 9s. 6d. f.o.b. Tees.

COALS.—There is considerable slackness in the steam co many of the pits being much in need of prompt orders. Pn quoted at 8s. 9d. per ton. Gas coals continue firm at from 7s. Coke remains firm, and good foundry qualities, for export commanding 14s., f.o.b.

HULL PAINT, OIL, AND COLOUR REP

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OILS.—Business here continues in a fairly satisfactory position markets ruling rather in favour of buyers than sellers; value oils continue declining, which is caused probably more by th than otherwise. At this period of the year is the working ances of the previous season's stock, in anticipation of the arrival stocks. During the week, 3,205 tons of cottonseed have an Alexandria, all old crop with the exception of about 70 tons. cotton oil about 5s. per ton lower on the spot, 16s. naked h accepted; September-October and November-April offer at 1 crude, 14s. 1½d. to 14s. 3d. naked spot. Casks 17s. 6d. an barrels 27s. 6d. per ton extra. The export of refined week has been 3,340 cwt. The import of linseed during the been 10,051 qrs. Linseed oil has declined about 7s. 6d closing with sellers at 19s. 9d. naked spot; October-1 18s. 1½d. to 18s.; and January-April, 18s. 9d. Refined: ditto from £1. to £2. per ton extra. The export for the wee 1,740 cwt. Rape oil unchanged. Castor oil steady: First 2¼d. per lb. Olive oil unchanged. Spirits of turps demand, 21s. per cwt. Cod oil from £17. to £20. per ton dearer, from £18. to £22. per ton. Liquid soap from £15 Wool oil from £14. per ton. Brown wool grease £8. per to

CAKES.—Linseed cakes quiet: 95% pure, £5. 17s. 6d. ton; Russians, £5. 12s. 6d. Oil cakes, £5. 2s. 6d. to £ per ton. Cotton cakes steady: Best makes, £4; seconds, November-April best makes, £3. 15s. to £3. 17s. 6d. R Black Sea, £2. 7s. 6d.; East India, £3. 7s. 6d. per ton.

PAINTS.—The trade is considerably quieter than has been during the last few months, and, as anticipated, the winter n be quieter. Prices are unchanged.

LIVERPOOL MINERAL MARKET.

market this week is ruling very firm. Manganese: Stocks are continually reduced, whilst arrivals have been few and have gone to consumption, consequently prices are firm, although there is a material alteration in the figures during the last month. Manganese: There has been no change, and prices remain firm £8., £10., and £12. per ton, according to quality. Manganite ore is in fair request, and prices remain unaltered at our station. Bauxite is in strong demand, and prices are firmer at ton for first quality, 16s. 9d. per ton for second quality, and ton for third quality, f.o.b., in cargoes. Chrome ore: There are more arrivals, and the demand is strong, therefore prices are unaltered. French chalk: Arrivals are slow, and stocks are much reduced; demand is brisk, and prices are firm at 70s. to 80s., and 100s. to 110s. per ton for "Angel White" according to quality. Plumbago is scarce, especially for fine brands, and sales are being made at £6., £8., and £10., according to quality. Wolfram and scheelite are in moderate request, and prices are advancing. Arsenic is in very fair request at £16. to £18. per ton. Fuller's earth is in good demand, and prices are firm. Baryta and ochres are in good request, and prices are steady. Baryta is steady, and prices are firm. Sulphate baryta is in demand, both for lump and powdered, and prices are advancing. It is in fair request at £5. to £5. 10s., according to quality.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, firmer: Scotch warrants closed ½d.; Middlesbrough, 38s. 7d. cash, and hematite, 49s. 9d. quiet: Chili bars, G. O. B.'s and G. M. B.'s, closed at 3d. to £46. 16s. 3d. cash, and £46. 18s. 9d. to £47. 3s. 9d. Tin, firm: Straits closed at £64. 17s. 6d. to £65. 7s. 6d. £65. 5s. to £65. 15s. three months; Australian, £66. 10s.; ingots, £68. Lead, dull: Spanish, £10. 17s. 6d. to £10. English, £11. 2s. 6d.; Silesian spelter, ordinary, £15. 7s. 6d. 1s. 1½d. Antimony, £31. 10s. Quicksilver: first hands, second hands, £7. 2s. 6d. Copper shares, steady: Cape, 2½d. Copiapo, 2½d. to 2½d.; Libiola, 3½d. to 3½d.; Mason and Barry, Rio Tinto, 18 to 18½; Tharsis, 4½d. to 5½d.

GOW, WEDNESDAY.—Market easy. A moderate business Scotch at 47s. 7½d. and 47s. 6½d. cash, also at 47s. 11d. and one month; closing with buyers at 47s. 6½d. cash, sellers ask Cleveland done at 38s. 7d. cash, also at 38s. 9d. one month; with buyers at 38s. 7d. cash, sellers ask 38s. 7½d. Cumberland done at 49s. 11½d. one month; closing with buyers at cash, sellers ask 49s. 9½d. Middlesbrough hematite closes at 46s. 4½d. cash, sellers 46s. 7½d. Market closed steady.

New Companies.

American Alkali Company.—CAPITAL £200,000, in shares of £1. each. This company has been formed to enter into an agreement for the acquisition of selling and dealing rights of chlorine in the United States of America, and to manufacture, etc., chlorine, sulphuric acid, nitric and bleaching powder. Registered office, 11, Queen Victoria-street, E.C. The subscribers to the memorandum of association are: J. W. Orde, 29, Cornhill, E.C., manager; M. S. Hall, Guards Club, Pall Mall, 2nd lieutenant; R. H. Fuller, Artillery Mansions, Victoria-street, S.W., stockbroker; H. H. Gray, 7, Thicket-road, Anerley, clerk; E. W. Piper, 11, Queen Victoria-street, E.C., accountant; J. J. Lunniss, 11, Queen Victoria-street, E.C., clerk.

Innocuous White Lead Manufacturing Co., Ltd.—CAPITAL £8,000, in £1. shares. This company has been formed to enter into an agreement with the English White Lead Syndicate, Limited, and F. L. Marshall, and to carry on business of white lead, paint, and colour manufacturers, grinders, and dealers. The subscribers to the memorandum of association are:—F. L. Marshall, 8, Furnival's Inn, E.C., gent; J. L. Dobell, Traine, Modbury, Devon, electrician; H. R. Gregory, 7, Quality Ct., W.C., chemist; J. Lindsay, 32, Lupus-street, S.W., gent; A. A. Harrison, 2, Furnival's Inn, E.C., clerk; W. V. Wallace, 1, Duke-street, W.C., gent; R. Fitch, 42, Furnival-street, E.C., stationer.

Lancaster and Tonge, Ltd.—CAPITAL £30,000, in shares of £100 each, of which 50 are Preference. This company has been formed to acquire the business of engineers, machinists, &c., now carried on by C. R. F. Tonge as "Lancaster and Tonge" at the Lancaster Works, Manchester. The subscribers to the memorandum of association are: R. F. C. Tonge, The Hut, Swinton, engineer; R. Tonge, Disley, Cheshire, merchant; J. Butterworth, 23, Withington-street, Pendleton, engineer; H. Entwistle, Pendlebury-road, Swinton, cashier; R. Brutton, 77, King-street, Manchester, chartered accountant; F. Swallow, Birkenshaw, near Leeds, merchant; J. Thomson, 2, Wendover Cres., Mount Florida, Glasgow, merchant.

Eldin Chemical Company, Ltd.—CAPITAL £12,000, in £10. shares, divided into 600 preference and 600 ordinary. This company has been formed to take over as a going concern and to carry on the bone grinding and chemical manure manufacturing business now carried on by C. and J. C. Dickson, as the Eldin Chemical Company, at Eldin Works, Loanhead, N.B. The subscribers to the memorandum of agreement are:—S. Dickson, Myrtle Villa, Lasswade, retired manufacturer; C. Dickson, Loanhead, manufacturer; R. Kreger, Grenigen, Frederikstraat, Holland, merchant; D. B. Tod, Bonnyrigg, S.S.C.; J. C. Dickson, Loanhead, manufacturer; R. Adam, 90, St. Andrew-street, Leith, candle manufacturer; J. Tait, High-street, Bonnyrigg, butcher.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

ending September 14th.

Acid—

70 pks. Philipps & Graves
17½ A. & M.
Zimmermann20 pks. Ryley & Co.
1 Lister & Biggs35 c. T. H. Lee
270 "32 pks. H. Wallace & Co.
130 Ohlenschlager
Brs.24 R. W. Greeff
& Co.

69 pks. R. W. Greeff & Co.

50 J. Barber & Co.

4 pks. H. Lorenz

260 Brit. Asbestos Co.
5 Robison, Roberts
& Co.Italy, 200 Pickford & Co.
340 Imperial Asbestos
Co.Cape, 5 L. & I. D. Jt. Co.
Germany, 20 Craven & Co.
Italy, 62 J. Greig
Canada, 408 W. Byford
France, 36 Flageollet & Co.
Holland, 12 Philipps & GravesBarium Chloride—
Germany, 200 pks. Petri Brs.Barytes—
Holland, 5 cks. L. & N. W. Rly.
" 57 A. Zumbach & Co.
" 20 J. Barber & Co.
" 91 J. L. Lyon & Co.
Germany, 23 W. Harrison & Co.Bleaching Soda—
Germany, 42 c. H. LambertBone Meal—
E. Indies, 310 t. A. Hunter & Co.Boracic Acid—
Italy, 20 pks. B. & N. Wf. Co.Camphor—
HongKong, 759 cs. L. & I. D. Jt. Co.
" 718 A. Runge & Co.
" 200 Prop. Hay's Wf.
Germany, 430 pks. W. Salamon
Japan, 167 Lewis & Peat
" 20 R. Warner & Co.

Caoutchouc—

Zanzibar, 18 c. Hale & Son
" 312 L. & I. D. Jt. Co.Rangoon, 105
Ibo, 24 Prop. Bull Wf.
Germany, 48 Anderson." 33 Weber & Smith
" 24 Clarke & Smith
" 42 L. & I. D. Jt. Co.Zanzibar, 10 Forbes, Forbes & Co.
Germany, 182 Clarke & Smith
Belgium, 19 Wallace Brs.E. Indies, 9 D. C. Thomas
U. States, 21 & Sons
W. Pope & Co.

Castor Oil—

Belgium, 40 brls. J. T. Morton
" 21 Anderson.France, 2 cs. Weber & Smith
W. G. Frith
& Co.Italy, 25 Barron, Harveys
& Co.E. Indies, 107 Ross & Deering
Italy, 30 Hodgkinsons & Co." 10 A. M. Serena & Co.
" 10 A. F. White & Co.France, 20 pks. F. Boehm
" 16 brls. Beresford & Co.E. Indies, 111 cks. Cayzer,
Irvine & Co.

Caustic Potash—

Belgium, 50 c. Petri Brs.

Chemicals (otherwise undescribed)

Germany, 4 pks. L. & I. D. Jt. Co.
" 65 T. H. Lee" 10 F. W. Crombie & Co.
U. States, 20 R. GreeningHolland, 48 Sydow & Co.
" 39 Little & Johnston" 20 Hernu, Peron
& Co." 21 J. Barber & Co.
" 10 Philipps & GravesBelgium, 12 Fuerst Brs.
Germany, 106 T. Palmer" 10 A. & M.
F. J. Putz & Co.

Copper Sulphate—

Germany, 17 pks. Charles & Fox

Cream of Tartar—

France, 5 pks. W. C. Bacon & Co.
" 13 B. & F. Wf. Co." 5 M. Ashby, Ltd.
Holland, 24 Kirkpatrick & Co.

Spain, 5	W. C. Bacon & Co.	Lead Acetate —	Holland, 15 pks.	Beresford & Co.	Starch —	Belgium, 21 pks.	T. H. Lee	Rotterdam, 2 brls. 4 cks.
Holland, 4	F. C. Devon & Co.		Germany, 24	F. Beech		Holland, 1 025	Little & Johnston	Ghent, 6
Spain, 5	B. & F. Wf. Co.	Magnesium Carbonate —	Holland, 3 pks.	Beresford & Co.		Austria, 70	R. G. Hall & Co.	
France, 3	G. Ward & Sons	Magnesium Sulphate —	Germany, 115 pks.	Berger, Kahler, & Co.		Germany, 520	L. Sutro & Co.	
Dextrine —						Holland, 135	Taylor Bros.	
Germany, 100 pks.	Seaward Bros.					Belgium, 81	Phillips & Graves	
" 25	R. G. Hall & Co.					Germany, 40	Sawyer, Sons, & Co.	
" 45	Pronk, Davis & Co.					" 310	Horne & Co.	
Dyestuffs —						" 50	J. Hall, jr., & Co.	
Extracts						" 121	Phillips & Graves	
France, 50 pks.	Bennett S. S. Co.					France, 90	E. & T. Pink	
Germany, 4	L. & I. D. Jt. Co.					Holland, 870	Vokins & Co.	
France, 6	C. Atkins & Nisbet					Belgium, 544	F. Claydon & Co.	
" 562	B. & F. Wf. Co.					" 140	Arnati & Harrison	
" 240	T. H. Lee					Germany, 312	Seaward Bros.	
Denmark, 34	Bailey & Leatham					Starch —		
Canada, 160	A. J. Humphrey					France, 56 bgs.	J. Burnett & Sons	
Austria, 150	Boutcher, Mortimore & Co.					Italy, 15 t.	G. Boor & Co.	
U. States, 50	W. Burton & Sons					" 5	C. J. Capes & Co.	
France, 6	Union L. Co.					Talc —		
Jamaica, 226	L. & I. D. Jt. Co.					France, 475	G. G. Blackwell, Sons, & Co.	
Fustic						Tar —		
Greece, 10 t.	J. V. Harff					U. States, 4,150 brls.	W. F. Malcolm & Co.	
Jamaica, 18	L. & I. D. Jt. Co.					N. Russia, 3,622	Linck, Moeller, & Co.	
Indigo						Tartaric Acid —		
France, 7 cts.	L. & I. D. Jt. Co.					Holland, 28 pks.	B. & F. Wf. Co.	
Germany, 3	T. H. Lee					" 16	F. C. Devon & Co.	
E. Indies, 14	Blyth, Greene & Co.					Turpentine —		
" 85	L. & I. D. Jt. Co.					Savannah, 2,977 brls.	Nickoll & Knight	
" 24	Park, Macfadyen & Co.					Ultramarine —		
" 10	F. Huth & Co.					Holland, 1 ck.	Haefner, Hilpert, & Co.	
" 6	W. J. Eales & Co.					" 20	5 cs. Hernu, Peron, & Co.	
" 10	R. Von Glehn & Sons					Varnish —		
" 42	Croydale & Co.					Germany, 6 pks.	L. & I. Dk. Co.	
" 9	Forbes, Forbes & Co.					Vermilion —		
" 27	Wallace Bros.					China, 20 cs.	L. & I. D. Jt. Co.	
" 4	Patry & Pasteur & Co.					Hong Kong, 20	Reas & Deering	
France, 1	Forbes, Forbes & Co.					White Lead		
Italy, 45	Patry & Pasteur & Co.					Germany, 50 brls.	Magee, Taylor, & Co.	
E. Indies, 10	H. W. Jewesbury & Co.					" 36 cks.	D. Storer & Sons	
Sweden, 1	Leach & Co.					Holland, 48 brls.	W. & A. Hampton	
Logwood						Wood Pulp —		
Jamaica, 128 L.	Park, Macfadyen & Co.					Norway, 2,400 pks.	J. Sharp	
" 79	L. & I. D. Jt. Co.					Germany, 50	H. C. Everett	
Myrabolams						Holland, 82	Henderson, Craig, & Co.	
E. Indies, 1,365 pks.	Blyth, Greene & Co.					Norway, 271	Union Whv. Co.	
" 1,360	A. Hagan					" 250	W. E. Bott & Co.	
" 2,721	W. Shelcott					Sweden, 800	Henderson, Craig, & Co.	
Shumac						Canada, 4,199	E. J. & W. Goldsmith	
Italy, 28 pks.	Beath, Schiess & Co.					Germany, 10	L. & I. D. Jt. Co.	
" 500	Harris Bros.					Norway, 406	80 t. Johnsen & Jorgensen	
" 500	Beresford & Co.					Germany, 140	Tough & Henderson	
" 108	Darling Bros.					Norway, 160	W. Friedlaender	
Tanner's Bark						" 500	London Paper Mill Co.	
U. States, 50 L.	W. Shelcott					" 240	G. S. Lovell	
Adelaide, 8	Beresford & Co.					" 50	Reed & Co.	
" 9	Dyster, Nalder & Co.					900	E. J. & W. Goldsmith	
" 45	Baxter & Hoare					Holland, 239	W. G. Taylor & Co.	
Belgium, 21	Leach & Co.					" 702	Phillips & Graves	
Melbourne, 50	Dyster, Nalder & Co.					Belgium, 1,272	W. Smith	
Turmeric						Zinc Oxide —		
E. Indies, 500 pks.	R. G. Hall & Co.					Holland, 50 brls.	M. Ashby, Ltd.	
" 100	Arracan Co., Ltd.					Germany, 63	W. Balchin	
" 635	Dalton & Young					Holland, 25		
" 10	Co.-op. L. Assn.					LIVERPOOL.		
" 150	L. & I. D. Jt. Co.					Week ending September 12th.		
" 300	Ldn. & Contrl. Agency					Acetic Acid —		
Farina —						Rotterdam, 5 blns.		
Holland, 50 pks.	J. Barber & Co.					Albumen —		
" 100	J. Knill & Co.					Alexandretta, 3 cs.		
Germany, 100	Seaward Bros.					Asbestos —		
France, 2	Hernu, Peron & Co.					Quebec, 700 bgs.		
Glucose —						Barytes —		
Germany, 13 pks. 104 c.	M. D. Co.					Rotterdam, 13 cks.		
U. States, 100	J. Keiller & Son, Ltd.					Bone Meal —		
" 250	550 Fellows, Morton & Co.					Hamburg, 15 bgs.		
" 186	86 t. L. Sutro & Co.					Borax —		
Germany, 15	J. Knill & Co.					Valparaiso, 1,885 sks.		
U. States, 220	R. G. Hall & Co.					Caoutchouc —		
" 59	544 Ohlenschlager Bros.					Havre, 3 pkgs.	Cunard S. S. Co., Ltd.	
" 100	600 T. J. Lipton					Castor Oil —		
" 50	282 Union Lge. Co.					Calcutta, 50 cs.		
Glue —						Colours —		
Holland, 14 pks.	J. Barber & Co.					Hamburg, 10 cs.		
Iron Sulphide —						Lead Acetate —		
Holland, 14 pks.	J. Barber & Co.					Holland, 15 pks.	Beresford & Co.	
Lead Acetate —						Germany, 24	F. Beech	
Holland, 15 pks.	Beresford & Co.					Magnesium Carbonate —		
Germany, 24	F. Beech					Holland, 3 pks.	Beresford & Co.	
Magnesium Carbonate —						Magnesium Sulphate —		
Holland, 3 pks.	Beresford & Co.					Germany, 115 pks.	Berger, Kahler, & Co.	
Magnesium Sulphate —								
Germany, 115 pks.	Berger, Kahler, & Co.					Manure —		
Manure —						Germany, 22 t.	E. Groschke	
Germany, 22 t.	E. Groschke					U. States, 8	T. M. Duché & Sons	
U. States, 8	T. M. Duché & Sons					France, 340	A. Hagao	
France, 340	A. Hagao					Germany, 10	Anderson, Weber, & Smith	
Germany, 10	Anderson, Weber, & Smith					Melbourne, 36	Low, Sons, & Bedford	
Melbourne, 36	Low, Sons, & Bedford					Methyl Alcohol —		
Methyl Alcohol —						Germany, 12 dms. 6 pks.	Stein Bros.	
Germany, 12 dms. 6 pks.	Stein Bros.					Belgium, 7	G. F. Poole	
Belgium, 7	G. F. Poole					" 5	L. & I. D. Jt. Co.	
Mica —						Mica —		
Ceylon, 14 c.	F. Barnes & Co.					U. States, 100	C. Ward	
U. States, 100	C. Ward					Naphthol —		
Naphthol —						Holland, 4 pks.	Phillips & Graves	
Holland, 4 pks.	Phillips & Graves					Nitrate —		
Nitrate —						Germany, 8 pks.	H. Lambert	
Germany, 8 pks.	H. Lambert					Ochre —		
Ochre —						Spain, 20 cks.	Murrieta & Co.	
Spain, 20 cks.	Murrieta & Co.					U. States, 102 brls.	Corticine Floor Covering Co.	
U. States, 102 brls.	Corticine Floor Covering Co.					Holland, 13 pks.	Phillips & Graves	
Holland, 13 pks.	Phillips & Graves					France, 245	W. Harrison & Co.	
France, 245	W. Harrison & Co.					Oxalic Acid —		
Oxalic Acid —						Holland, 20 pks.	Beresford & Co.	
Holland, 20 pks.	Beresford & Co.					Paraffin Wax —		
Paraffin Wax —						U. States, 150 brls.	L. & I. D. Jt. Co.	
U. States, 150 brls.	L. & I. D. Jt. Co.					" 1,521	Anglo-American Oil Co.	
" 1,521	Anglo-American Oil Co.					" 323	Mordaunt Bros.	
Phosphate Rock —						France, 142 t.	Anglo-Contl. G. Wks.	
France, 142 t.	Anglo-Contl. G. Wks.					Belgium, 127	G. Allen	
Belgium, 127	G. Allen					France, 280	C. J. Langmead	
France, 280	C. J. Langmead					Holland, 220	G. Allen	
Holland, 220	G. Allen					" 215	Odams Manure Co.	
Pitch —						Pitch —		
N. Russia, 1,100 brls.	Fellows, Morton, & Co.					France, 27 cks.	Poth, Hille, & Co.	
France, 27 cks.	Poth, Hille, & Co.					Plumbago —		
Plumbago —						Italy, 20 bgs.	Fellows, Morton, & Co.	
Italy, 20 bgs.	Fellows, Morton, & Co.					Potash —		
Potash —						Canada, 67 c.	S. Ward & Co.	
Canada, 67 c.	S. Ward & Co.					" 214	M. D. Co.	
" 214	M. D. Co.					Potassium Bicarbonate —		
Potassium Bicarbonate —						Holland, 40 c.	A. & M. Zimmermann	
Holland, 40 c.	A. & M. Zimmermann					Potassium Binoxalate —		
Potassium Binoxalate —						Holland, 4 pks.	Beresford & Co.	
Holland, 4 pks.	Beresford & Co.					Potassium Carbonate —		
Potassium Carbonate —						Holland, 100 c.	Beresford & Co.	
Holland, 100 c.	Beresford & Co.					Germany, 200	Petri Bros.	
Germany, 200	Petri Bros.					France, 130	"	
Potassium Chloride —						Potassium Chloride —		
Germany, 298 pks.	W. G. Blagden					Holland, 4 pks.	Beresford & Co.	
Potassium Cyanide —						Potassium Carbonate —		
Holland, 7 pks.	F. Boehm					Holland, 100 c.	Beresford & Co.	
Germany, 20	Beresford & Co.					Germany, 200	Petri Bros.	
Potassium Sulphate —						France, 130	"	
Holland, 7 pks.	F. Boehm					Potassium Chloride —		
Germany, 20	Beresford & Co.					Germany, 298 pks.	W. G. Blagden	
Potassium Sulphate —						Potassium Cyanide —		
Holland, 7 pks.	F. Boehm					Holland, 7 pks.	F. Boehm	
Germany, 20	Beresford & Co.					Potassium Sulphate —		
Potassium Sulphate —						Holland, 7 pks.	F. Boehm	
Holland, 7 pks.	F. Boehm					Germany, 20	Beresford & Co.	
Germany, 20	Beresford & Co.					Pumice Stone —		
Pumice Stone —						Italy, 14 c.	W. J. Davies & Sons	
Italy, 14 c.	W. J. Davies & Sons					" 2 t.	Stobbs, Wilson, & Co.	
" 2 t.	Stobbs, Wilson, & Co.					" 5	O'Hara & Hoar	
Quicksilver —						Quicksilver —		
Italy, 100 btls.	L. & I. D. Jt. Co.					Italy, 100 btls.	L. & I. D. Jt. Co.	
Spain, 25	H. Grey, jr.					Italy, 25	H. Grey, jr.	
Italy, 25	H. Grey, jr.					Rosin —		
Rosin —						France, 60 cks.	Barrett, Tagant, & Co.	
France, 60 cks.	Barrett, Tagant, & Co.					Salt —		
Salt —						Germany, 550 bgs.	Crosse & Blackwell	
Germany, 550 bgs.	Crosse & Blackwell					Saltpetre —		
Saltpetre —						Holland, 48 cks.	Petri Bros.	
Holland, 48 cks.	Petri Bros.					Germany, 44	J. Hall & Son	
Germany, 44	J. Hall & Son					" 70	T. Merry & Son	
" 70	T. Merry & Son					E. Indies, 261 bgs.	Lucas & Spencer's	
E. Indies, 261 bgs.	Lucas & Spencer's					Silica —		
Silica —						Germany, 900 bgs.	A. Haacke & Co.	
Germany, 900 bgs.	A. Haacke & Co.					Sodium Oxalate —		
Sodium Oxalate —						Holland, 13 pks.	F. W. Berk & Co.	
Holland, 13 pks.	F. W. Berk & Co.					Sodium Phosphate —		
Sodium Phosphate —						Germany, 15 pks.	Kirkpatrick & Co.	
Germany, 15 pks.	Kirkpatrick & Co.					Sodium Sulphide —		
Sodium Sulphide —						Holland, 10 pks.	Beresford & Co.	
Holland, 10 pks.	Beresford & Co.					Starch —		
Starch —						Belgium, 21 pks.	T. H. Lee	

2,115 brls.	
497 t. 400 bgs.	
581 bgs.	Ralli Brs.
980	
100	
100 kgs. 4 cks.	
916 brls.	
1 cs.	W. Cuthbertson
ort News, 340	
leans, 1,876	122
one—	
aux, 235 bgs.	
elphia, 1 brl.	J. Hudspeth
York, 200 bgs.	
rdam, 64 cs. 52 bxs.	
rd, 50	J. T. Fletcher & Co.
ndria, 4 cks.	
aux, 18 cks.	
ric Acid—	
rdam, 7 cks.	
le—	
elphia, 1,000 brls.	
Salt—	
burg, 2,236 bgs.	
erp, 100	J. T. Fletcher & Co.
Lead—	
n, 28 cks.	
rdam, 17	
Pulp—	
erp, 8,130 brls.	Becker & Co.
54	
Oxide—	
erp, 37 brls.	

HULL.

Week ending September 14th.	
Acid—	
rdam, 2 cks.	W. & C. L. Ringrose
rdam, 5 cks.	Hutchinson & Son
20	Wilson, Sons, & Co., Ltd.
12	"
22 cks.	Hutchinson & Son
74	Bailey & Leatham
29	W. & C. L. Ringrose
37	G. Holmes & Co.
22	"
icals (otherwise undescribed)	
mburg, 1 cs.	Wilson, Sons, & Co., Ltd.
burg, 14 cks. 125 kgs.	"
irk, 1 pkge.	"
erp, 130 pks.	"
il—	
en, 230 brls.	Wilson, Sons, & Co., Ltd.
und, 5	"
burg, 30	5 cks. "
rs—	
t, 7 brls.	Wilson, Sons, & Co., Ltd.
erp, 3 cks.	Bailey & Leatham
burg, 10 cs.	G. Malcolm & Son
rdam, 1	Hutchinson & Son
10	29 cks. 22 bxs.
pkgs. 135 brls.	W. & C. L. Ringrose
erp, 10 brls. 32 cs. 4 cks. 26 pks.	Wilson, Sons, & Co., Ltd.
rs and Alizarine—	
rdam, 101 pks.	W. & C. L. Ringrose
ite—	
nhagen, 65 cks.	Wilson, Sons, & Co., Ltd.
ine—	
n, 150 bgs.	Wilson, Sons, & Co., Ltd.
85	"

Dyestuffs—	
Alizarine	
Rotterdam, 1 cs. 20 cks. 26 brls. 1 bx.	W. & C. L. Ringrose
Madder	
Rotterdam, 1 ck.	Hutchinson & Son
Sumac	
Palermo, 1,100 bgs.	Wilson, Sons, & Co., Ltd.
850	"
Farina—	
Ghent, 483 cs.	Wilson, Sons, & Co., Ltd.
Danzig, 200 bgs.	
Stettin, 100	
Hamburg, 135	Wilson, Sons, & Co., Ltd.
Harlingen, 5	"
Gelatine—	
Hamburg, 28 cs.	Wilson, Sons, & Co., Ltd.
Glucose—	
Rotterdam, 100 bgs.	Hutchinson & Son
Glue—	
Rouen, 6 cks. 29 brls. 10 pkgs.	Rawson & Robinson
Rotterdam, 8 bgs.	W. & C. L. Ringrose
Bremen, 126 brls.	Veltmann & Co.
Dunkirk, 37 cks.	Wilson, Sons, & Co., Ltd.
Hamburg, 3	"
Kaolin—	
Rotterdam, 122 bgs.	Hutchinson & Son
Manure—	
Bergen, 200 bgs.	Wilson, Sons, & Co., Ltd.
Naphthol—	
Rotterdam, 2 cks.	Hutchinson & Son
Ochre—	
Rouen, 12 cks.	Rawson & Robinson
46	"
Paint—	
New York, 28 cs.	Wilson, Sons, & Co., Ltd.
Pitch—	
Antwerp, 1 brl.	Wilson, Sons, & Co., Ltd.
Plumbago—	
Hamburg, 10 cks.	Bailey & Leatham
28	F. B. Grotian & Co.
Potash—	
Dunkirk, 4 dms.	Wilson, Sons, & Co., Ltd.
Pyrites—	
Huelva, 2,092 t.	The Farmers Co.
420	"
Saltpetre—	
Rotterdam, 22 brls.	Hutchinson & Son
Hamburg, 2 bgs.	Wilson, Sons, & Co., Ltd.
4 cks.	Lofthouse & Saltner
Soap—	
Copenhagen, 9 cks.	Wilson, Sons, & Co., Ltd.
12 cs.	"
515 bxs.	"
Starch—	
Bremen, 1,428 cs.	Veltmann & Co.
Rotterdam, 40	Hutchinson & Son
Antwerp, 168	Wilson, Sons, & Co., Ltd.
Sulphur—	
Catania, 1,557 pks.	Wilson, Sons, & Co., Ltd.
1,075	50 t.
Tallow—	
New York, 300 tcs.	Wilson, Sons, & Co., Ltd.
Antwerp, 2 bgs.	"
Tar—	
Uleaborg, 1,100 brls. 200 hf.-brls.	
Tartaric Acid—	
Rotterdam, 2 cks.	Hutchinson & Son
Treacle—	
Boston, 545 brls.	Wilson, Sons, & Co., Ltd.
New York, 1,325	"

Turpentine—	
Antwerp, 6 cks.	Bailey & Leatham
Ultramarine—	
Bremen, 8 cks.	
Amsterdam, 20	J. Good & Sons
Rotterdam, 2	3 cs. Hutchinson & Son
White Lead—	
Antwerp, 32 cks.	Bailey & Leatham
Rotterdam, 10	W. & C. L. Ringrose
Amsterdam, 23	J. Good & Sons
Wood Pulp—	
Helsingfors, 41 brls.	J. Good & Sons
45	Bailey & Leatham
16	Furley & Co.
381	"
Zinc Oxide—	
Antwerp, 50 cks.	Bailey & Leatham
Zinc White—	
Rotterdam, 25 cks.	Hutchinson & Son

MANCHESTER.

Week ending September 14th.	
Alumina Sulphate—	
Rotterdam, 24 cks.	
Barium Chloride—	
Rotterdam, 10 cks.	
Bone Ash—	
Rio Grande do Sul, 318 t.	
Chemicals (otherwise undescribed)	
Rotterdam, 3 cks.	
Colours—	
Paris, 4 cks. 2 cs.	
Rotterdam, 9	38 .83 brls.
29 bxs.	
Hamburg, 2	1 5 dms.
Dried Blood—	
Ghent, 10 cs.	
Dyestuffs—	
Alizarine	
Rotterdam, 11 cks.	
Extracts	
Treport, 29 cks. 14 cs.	
Ghent, 50	
Logwood	
Campechy, 530 t.	
Farina—	
Hamburg, 50 bgs.	
Glue—	
Treport, 15 cks. 29 brls.	
Rotterdam, 4 cs.	120 bgs.
Hamburg, 20	20
Limestone—	
Antwerp, 1 crt.	
Litharge—	
Rotterdam, 6 cks.	
Nitrate—	
Rotterdam, 4 cks.	
Paint—	
Stockholm, 92 dms.	J. M'Mass & Son
Pitch—	
Rotterdam, 39 cks.	
Hamburg, 155	63 brls.
Potash—	
Rotterdam, 20 cks.	
Saltpetre—	
Hamburg, 4 brls.	
Sodium Aluminate—	
Hamburg, 5 cks.	
Starch—	
Rotterdam, 187 cs.	
Hamburg, 200	
Ghent, 76	J. T. Fletcher & Co.
20	"
Tartar—	
Hamburg, 8 cks.	
Tartaric Acid—	
Rotterdam, 43 cks.	
Tin Perchloride—	
Antwerp, 5 cks.	
Treacle—	
Norrkoping, 75 brls.	Stott, Coker, & Co.
Ultramarine—	
Hamburg, 4 cks.	
Waste Salt—	
Hamburg, qty.	

Wood Pulp—	
Drammen, 301 brls.	W. H. Ingram
Rotterdam, 51	
Stockholm, 500	17 bgs.
Gefle, 3,442	
Sundswall, 6,000	
Sameund, 1,163	
Kotka, 2,440	A. Wertheim & Co.
Zinc Oxide—	
Rotterdam, 70 brls.	
Hamburg, 35 cks.	

GLASGOW.

Week ending September 19th.	
Acetate of Lime—	
New York, 810 bgs.	
Acetone—	
Hamburg, 10 cks.	
Alkali—	
Rotterdam, 12 dms.	J. Rankine & Son
Alum—	
Hamburg, 68 cks.	
Aniline—	
Rotterdam, 5 cks. 4 cs.	J. Rankine & Son
Anilic Salt—	
Rotterdam, 9 cks.	J. Rankine & Son
Barium Sulphate—	
Antwerp, 700 bgs.	
Borax—	
Hamburg, 10 cks.	
Caoutchouc—	
Hamburg, 5 ck	
Castor Oil—	
Antwerp, 51 cks.	
Marseilles, 337 brls.	30 cs.
Caustic Soda—	
Antwerp, 8 dms.	
Chemicals (otherwise undescribed)	
Hamburg, 182 cks.	
Colours—	
Hamburg, 6 brls.	
Rotterdam, 6 cks. 1 cs.	J. Rankine & Son
9 pkgs.	
Cream of Tartar—	
Marseilles, 8 cks.	
Dyestuffs—	
Alizarine	
Rotterdam, 20 cks. 3 cs.	J. Rankine & Son
77 pkgs.	
Argols	
Bordeaux, 52 cks. 20 bgs.	
Extracts	
Fiume, 200 brls.	Geo. Dickson
Antwerp, 6 cs.	
Philadelphia, 50	
Genoa, 69	
Indigo	
Rotterdam, 14 chts.	J. Rankine & Son
Farina—	
Hamburg, 1,200 bgs.	
Glucose—	
New York, 742 brls. 750 bgs.	
Glue—	
New York, 142 brls.	
Rotterdam, 60 bgs.	J. Rankine & Son
Guano—	
Iceland, 110 sks.	
Kelp—	
Stavanger, 996 sks.	
Lead Acetate—	
Hamburg, 19 cks.	
Litharge—	
Rotterdam, 6 cks.	J. Rankine & Son
Magnesia—	
Hamburg, 1 ck.	
Ochre—	
Marseilles, 170 cks.	
Paint—	
Montreal, 8 cs.	
Phosphate Rock—	
Bona, 425 t.	A. Cross & Sons
Pitch—	
Marseilles, 4 brls.	
Plumbago—	
Fiume, 80 brls.	
Pyrites—	
Huelva, 800 t.	

Rosin—			
New York,	2,918 brls.		
Rotterdam,	6 cks.	J. Rankine & Son	
Saltpetre—			
Hamburg,	68 cks		
Soap—			
Fiume,	132 cs.		
Philadelphia,	400 bxs. 26 crts.		
Soda—			
Rotterdam,	20 cks.	J. Rankine & Son	
Sodium Chromate—			
Rotterdam,	28 cks.	J. Rankine & Son	
Starch—			
Fiume,	30 bgs.	Wm. Stirling & Son	
"	60		
Antwerp,	100		
Rotterdam,	48 cs.	J. Rankine & Son	
Stearine—			
Amsterdam,	62 bgs.		
Tallow—			
New York,	25 tcs.		
Tartar—			
Bordeaux,	11 cks.		
Tartaric Acid—			
Rotterdam,	5 cks.	J. Rankine & Son	
Treacle—			
Philadelphia,	800 brls.	Waddell & Bryson	
New York,	300		
Drontheim,	18		
Waste Salt—			
Hamburg,	170 t. 2,052 bgs.		
White Lead—			
Rotterdam,	46 cks.	J. Rankine & Son	

Wood Pulp—			
Gefle,	3,700 bls.	Henderson, Craig & Co.	
Fiume,	204	185 rolls.	
Christiania,	200	Alsing & Co., Ltd.	
"	269		
Drontheim,	2,436		
Zinc Oxide—			
Antwerp,	25 cks.		
Zinc White—			
Rotterdam,	150 cks.		
"	25	J. Rankine & Son	

TYNE.

Week ending September 14th.

Acetic Acid—			
Rotterdam,	3 cks.	Tyne S. S. Co.	
Barium—			
Rotterdam,	300 bgs.	Tyne S. S. Co.	
Barytes—			
Rotterdam,	134 bgs. 76 cks.	Tyne S. S. Co.	
Cod Oil—			
Bergen,	2 brls.		
Colours—			
Rotterdam,	3 cks.	Tyne S. S. Co.	
Hamburg,	9 cs.	"	
Farina—			
Hamburg,	20 bgs.	Tyne S. S. Co.	
Soap—			
Rotterdam,	2 cs.	Tyne S. S. Co.	
Starch—			
Rotterdam,	146 cs.	Tyne S. S. Co.	
Antwerp,	28	"	
Tartaric Acid—			
Rotterdam,	8 cks.	Tyne S. S. Co.	
White Lead—			
Antwerp,	11 cks.	Tyne S. S. Co.	

Wood Pulp—			
Gothenburg,	114 pkgs. 240 bls.		
Zinc White—			
Rotterdam,	5 cks.	Tyne S. S. Co.	

GOOLE.

Week ending September 11th.

Alkali—			
Calais,	17 cks.		
Alum—			
Rotterdam,	60 bgs.		
Aniline Dyes—			
Ghent,	17 cks. 1 cs.		
Barytes—			
Antwerp,	80 bgs.		
Caoutchouc—			
Boulogne,	5 cks.		
Carbonate of Lime—			
Antwerp,	133 bgs.		
Colours—			
Hamburg,	9 cks. 12 cs.		
Ghent,	5	1	
Dyestuffs—			
Alizarine			
Rotterdam,	75 cks. 1 cs.		
Extracts			
Rouen,	44 cks.		
Logwood			
Belize,	328 t.		
Mente Christi,	1,200		
Dyestuffs (otherwise undescribed)			
Rotterdam,	78 cks. 17 cs.		
Boulogne,	14	4	18 pkgs.
Hamburg,	9		
Farina—			
Hamburg,	850 bgs.		
Delfsryhl,	703		
Glucose—			
Calais,	100 bgs.		
Hamburg,	85 cks.		

Potash—			
Calais,	915 dms. 36 cks.		
Dunkirk,	30	16	
Rotterdam,	20		
Hamburg,		4	
Saltpetre—			
Rotterdam,	525 bgs.		
Soap—			
Boulogne,	1 ck.		
Sodium Silicate—			
Rotterdam,	1 ck.		
Starch—			
Rotterdam,	10 cs.		
Tartaric Acid—			
Rotterdam,	2 cks.		
Varnish—			
Antwerp,	1 ck.		
Wood Pulp—			
Hamburg,	403 bls.		

GRIMSBY.

Week ending September 14th.

Albumen—			
Hamburg,	3 cks.		
Caoutchouc—			
Hamburg,	4 cs.		
Chemicals (otherwise undescribed)			
Hamburg,	3 cks. 10 cs.		
Colours—			
Hamburg,	25 cks. 1 cs.		
Dyes—			
Rotterdam,	2 cks.		
Hamburg,	24		
Dieppe,	27		
Antwerp,	1 cs. 42 pkgs.		
Farina—			
Hamburg,	20 bgs.		
Wood Pulp—			
Malmo,	400 bls.		

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending September 18th.

Acids—			
Rosario,	18 pks.	£69	
Porto Alegre,	5	32	
Natal,	20 cs.	37	
Gibraltar,	1 ck.	11	
Alkali—			
Rosario,	2 t. 2 c.	£18	
Algiers,	3	5	
Algoa Bay,	9	10	
Alum Cake—			
Calcutta,	18 t. 10 c.	£67	
Ammonia—			
Cape Town,	1 t.	£39	
Ammonia and Acids—			
Rosario,	18 pks.	£46	
Ammonium Carbonate—			
Dunkirk,	1 t. 10 c.	£50	
Cologne,	2 18	86	
St. Petersburg,	6 17	205	
Rouen,	20 pkgs.	85	
Ammonium Chloride—			
Natal,	10 c.	£21	
Shanghai,	2 t. 1	86	
Ammonium Sulphate—			
Valencia,	51 t. 18 c.	£510	
Sourabaya,	500	5,500	
Ghent,	200	1,825	
Anhydrous Ammonia—			
Sydney,	50 cs.	£273	
Arsenic—			
Canterbury,	1 t.	£16	
Antwerp,	10		
Sydney,	2 3 cks.	33	
Benzoic Acid—			
New York,	1 cs.	£13	
Bleaching Powder—			
Melbourne,	11 t. 3 c.	£101	
Boracic Acid—			
Brisbane,	2 t.	£74	
Carbon Bisulphide—			
Rosario,	40 drs.	£40	
Carbonic Acid Gas—			
Jersey,	75 tubes	£28	

Caustic Soda—			
Mauritius,	2 t. 18 c.	£30	
Natal,	1 9	20	
Algoa Bay,	7 16	186	
E. London,	16	24	
Christchurch,	20	242	
Chemicals (otherwise undes.)—			
Auckland,	12 pkgs. 10 kgs.	£114	
Adelaide,	5 1 cs.	52	
Natal,	2	19	
Melbourne,	4 t. 6 c. 2	213	
E. London, 5 brls.		12	
Marseilles,	1	45	
Calcutta,	8	57	
Cape Town,	8 cks. 1	19	
Flushing,	1	25	
Singapore,	20	15	
Kurrachee,	6 8	62	
Hong Kong,	32 pkgs.	40	
Santander,	1	21	
Timaru,	15 drs. 2	13	
Bombay, 1 cs.	1 11 c. 4 cks.	163	
Hamburg,	2	38	
Veille,	1 3	51	
Citric Acid—			
Rotterdam,	2 cks.	£60	
Lisbon,	5 c.	29	
Copenhagen,	1	9	
Melbourne,	2 t. 11	297	
Brisbane,	2	14	
Bombay,	2	16	
Hamburg,	1	7	
St. Petersburg,	2 10	15 kgs. 398	
Sevilla,	15	95	
Coal Products—			
Aniline Dyes			
Melbourne,	1 cs.	£45	
Anthracene			
Rotterdam,	35 cks.	£265	
Benzol			
Rotterdam,	40 puns. 24 drs.	£393	
Treport,	20 18 cks.	241	
Antwerp,	21 brls.	55	
Rotterdam,	1 dm.	10	
Carbolic Acid			
Paris,	15 cks.	£30	
Cresosote			
Dieppe,	23,500 glns.	£123	
Danzig,	100 brls.	70	

Naphtha			
B. Ayres,	40 drs.	£175	
Naphthalene			
Antwerp,	3 cks.	£25	
Hamburg,	10 124 bgs.	121	
Le Treport,	70	42	
Pitch			
Helsingfors,	60 t.	£110	
Antwerp,	800	1,480	
Tar			
Colombo,	15 runs.	£18	
Algoa Bay,	210 drs.	10	
Boston,	500 cks. 302		
Helsingfors,	500 brls. 285		
Natal,	550	28	
Colombo,	98	77	
Tar Oil			
Marseilles,	25 cks.	£20	
New York,	500	212	
Copper Sulphate—			
Paris,	25 t. 4 c.	£410	
Canterbury,	1	15	
Seville,	2 10	46	
Boston,	25	413	
Sevilla,	13	10	
Christchurch,	2 10	39	
Sydney,	1	17	
Cream of Tartar—			
Cape Town,	5 c.	£18	
Christchurch,	10	33	
Sydney,	2 t. 5	166	
Melbourne,	4 20 kgs.	368	
Disinfectants—			
Melbourne,	1 cs. 20 cks.	£49	
Penang,	300 drs.	90	
Odessa,	21	55	
Rotterdam,	1	57	
Sydney,	22	35	
Algoa Bay,	1 t. 4 c. 3	143	
Hydrochloric Acid—			
E. London,	10 cs.	£12	
Lead Acetate—			
Sydney,	20 kgs.	£10	
Manure—			
Natal,	1 t.	£13	
Huelva,	252 10 c.	1,000	
Genoa,	30	120	
Santander,	40 1	275	

Rouen,	65 10	390	
Lyttelton,	50	126	
E. London,	2	16	
Lisbon,	46 4	241	
Treport,	115 18	284	
Nitric Acid—			
E. London,	20 cs.	£44	
Guernsey,	20 carboys	70	
Phosphorus—			
Sydney,	23 cs.	£210	
Dunedin,	23 10 c.	345	
Canterbury,	5	45	
Potash—			
Adelaide,	1 ck.	£18	
Canterbury,	1 t.	81	
Treport,	10	409	
Potassium Chlorate—			
New York,	5 t. 8 c.	£200	
Potassium Cyanide—			
Algoa Bay,	10 t. 8 c.	£1,451	
Potassium Oxalate—			
Treport,	10 c.	£25	
Potassium Prussiate—			
Genoa,	7 cks.	£130	
Barcelona,	5	100	
Bilbao,	16 c.	50	
Sal Acetos—			
Treport,	1 t. 15 c.	£75	
Salicylic Acid—			
Cape Town,	2 cs.	£40	
Saltpetre—			
Adelaide,	1 cs.	£11	
Melbourne,	1 t.	72	
Natal,		10 c.	
Lisbon,	4	19	
Rio de Janeiro,	9	214	
Gothenburg,	1	81	
Oporto,	3 14	77	
B. Ayres,	2 2	47	
Brisbane,	3	53	
Gibraltar,	15	114	
Christchurch,	1	14	
Bahia,	9 5	84	
Amsterdam,	6	10	

Dip— Y. Bay, 5 l. 7 c. £188 ington, 1 5 67 res, 26 10 288 pks. 330 Town, 25 500 cs. 20 drs. 25 4, 400 698 odon, 250 1,160 Elizabeth, 12 3 c. 430 ca, 1 dm. 239 and, 10 c. 12 Bay, 2 t. 5 5 Ash— ru, 1 t. 9 e. £110 Crystals— Kong, 3 t. £12 3 6 c. 8 2 5 5 1 13 6 Salts— York, 0 t. 5 c. £140 Bicarbonate— Bay, 2 t. 10 c. £20 Carbonate— bo, 5 c. £5 ium Nitrate— is, 9 t. 18 c. £96 Oxide— 150 t. £150 ium Nitrate— ta, 13 c. £17 ir— Bay, 100 kgs. £52 res, 3 t. 16 c. 48 la, 3 19 church, 2 6 12 ric Acid— y, 23 cs. £13 odon, 11 18 phosphate— G, 220 t. £370 ara, 3 15 c. 68 25 12 104 10 50 phosphate of Lime— kshaven, 600 t. £1010 ic Acid— 10 c. £76 me, 30 kgs 1 t. 18 289 f, 15 4 2 496	Las Palmas, 26 5 253 Tenerville, 22 216 Arsenic— B. Ayres, 17 t. 10 c. £280 Asbestos— Mauritius, 2 cs. Rouen, 1 bg. Tongshan, 2 Barytes— Maranham, 10 bgs. Bleaching Powder— Ancona, 12 cks. Antwerp, 22 Baltimore, 299 Boston, 863 B. Ayres, 25 Calcutta, 219 cs. Copenhagen, 45 Genoa, 64 Ghent, 69 Montreal, 117 Naples, 37 Newport News, 105 New York, 555 Norfolk, 10 Paris, 48 Philadelphia, 258 Rosario, 10 bxs. Rotterdam, 18 San Francisco, 50 San Sebastian, 30 Bog Ore— B. Ayres, 111 cks. Bone Waste— Rouen, 4 t. 10 c. £22 Boric Acid— Rotterdam, 6 t. 10 c. £180 Melbourne, 2 10 83 Borax— Antwerp, 16 t. 5 c. £335 Hamburg, 21 2 1 q. 422 B. Ayres, 12 13 Rotterdam, 36 12 3 743 Gothenburg, 1 1 2 19 Natal, 5 5 Calcined Magnesia— Genoa, 2 q. £50 Calcium Chloride— Bombay, 4 t. 4 c. £10 Carbolic Acid— Rotterdam, 12 t. 16 c. 3 q. £170 Calcutta, 4 2 19 Baltimore, 6 18 3 315 Tampico, 12 38 New York, 7 cks. 1 3 62 Caustic Potash— Newport News, 3 t. 12 c. £96 Wellington, N.Z., 5 5 Sydney, 3 3 104 Caustic Soda— Alicante, 30 dms. Alexandria, 80 Ancona, 33 Bahia, 35 Baltimore, 193 Barcelona, 637 Bari, 138 48 pks. Bombay, 40 B. Ayres, 75 Calcutta, 45 Callao, 57 Catania, 25 Carapano, 80 Christiania, 15 Corinto, 5 Corunna, 12 Fiume, 75 Galtz, 346 Genoa, 526 Ghent, 3 Hamburg, 593 Hong Kong, 5 cks. Ibrai, 100 La Guayra, 10 Leghorn, 50 Lisbon, 18 Madeira, 10 Malaga, 60 Messina, 40 Montreal, 130 Naples, 40 Newport News, 961 115 bxs. New York, 485 Odessa, 150 Oporto, 50 Palermo, 5 Paris, 24 Pernambuco, 50 Philadelphia, 225 Pimental, 100 Pt. Natal, 10 Puerto Cabello, 18 Rio de Janeiro, 20	Rio Grande do Sul, 100 6 pks. St. John, 50 San Francisco, 15 Santander, 10 Santos, 10 Savanna, 20 Tarragona, 76 20 brls. 60 cks. Valparaiso, 50 Vera Cruz, 45 Vigo, 70 Volo, 32 Chemicals (otherwise undescribed) Salaora, 3 c. £5 Corfu, 6 11 Samsoun, 10 18 Mersyne, 8 14 Beyrout, 1 t. 37 Antwerp, 6 11 Philadelphia, 13 1 430 Calcutta, 1 15 77 Genoa, 2 17 China Clay— Bombay, 70 bgs. 815 cks. Boston, 1,373 t. Cartagena, N.G., 4 Genoa, 12 10 c. Maranham, 5 N. Orleans, 15 New York, 180 Philadelphia, 40 Syra, 1 8 Coal Products— Alizarine Oil New York, 10 cks. Aniline Colours Montreal, 5 pks. New York, 16 brls. Salonica, 8 cs. Syra, 10 Aniline Dyes Calcutta, 5 cs. St. John's, 1 Aniline Oil Barcelona, 4 kgs. Boston, 5 dms. Aniline Salts Boston, 60 cs. New York, 40 5 cks. Creosote Savanna, 50 cs. Naphthaline New York, 11 cks. Naphthaline Colours New York, 4 cks. Tar Philadelphia, 200 brls. St. John's, 80 hf.-brls. Copperas— Salaora, 2 t. 2 q. £3 Melbourne, 14 15 c. 3 33 Copper Sulphate— Catania, 4 t. 17 c. £76 La Plata, 1 10 27 Dunkirk, 10 3 q. 156 M. Video, 7 3 122 Ibrai, 1 16 Nantes, 5 12 2 76 Genoa, 10 6 158 Naples, 4 18 2 78 Valparaiso, 15 240 Sydney, 1 5 20 Melbourne, 22 10 378 Bourgas, 19 3 15 Barcelona, 10 1 171 Salonica, 19 2 15 Gothenburg, 1 3 2 18 Rouen, 4 19 1 79 Hamburg, 2 9 3 37 Odessa, 10 3 163 Bilbao, 12 6 210 Corunna, 2 15 3 46 Disinfectants— Gibraltar, 18 cks. £5 Dried Blood— Teneriffe, 10 t. 2 c. £80 Farina— Lisbon, 4 cks. Maranham, 20 bgs. French Chalk— Pernambuco, 50 bgs. Gelatine— New York, 100 bxs. Glue— Shanghai, 8 cks. Gypsum— New York, 36 t. 10 c. £116 Iron Liquor— Lisbon, 5 t. 1 c. £32 Iron Oxide— Genoa, 6 t. £45 Montreal, 1 9 c. 11	Lead Acetate— Calcutta, 2 t. 3 c. £66 Lime— C. C. Castle, 10 t. £9 Litharge— Bilbao, 2 brls. Magnesia— New York, 8 cs. Manganese— Lisbon, 2 cks. Manure— St. Nazaire, 1,170 t. 2 q. £50 Bordeaux, 200 4 c. 3 802 Valencia, 50 9 1 150 Molasses— Bombay, 8 cks. Oxalic Acid— Syra, 1 t. 17 c. 2 q. £56 Boston, 21 18 726 Paint— Baltimore, 4 cks. 2 crts. Benguela, 40 kgs. Beyrout, 1 9 dms. Bilbao, 2 Bolama, 2 Bombay, 5 Coquimbo, 14 cs. 2 Corinto, 6 El Triunpho, 3 Gibraltar, 3 6 Guatemala, 5 Havana, 2 cs. 2 Hong Kong, 20 Iquique, 1 La Libertad, 10cs. La Plata, 42 La Union, 2 Malta, 16 M. Video, 63 cs. 10 New York, 4 9 200 50 frlks. Pernambuco, 7 Ponce, 1 Puerto Cabello, 24 cs. Plata, 5 Rotterdam, 19 pks. St. John's, 3 San Domingo, 18 San Jose de Guatemala, 7 San Juan, 184 Sierra Leone, 328 Talcabuan, 48 Tampico, 2 brls. Trieste, 60 dms. Valparaiso, 109 cs. 5 cks. Vera Cruz, 300 Painters' Colours— Alexandria, 100 brls. Belize, 9 cks. 40 kgs. 27 pks. Boca, 12 Bombay, 70 dms. Bordeaux, 1 bx. Boston, 1 B. Ayres, 22 cs. 1 80 51 brls. Cartagena, N.G., 101 Constantinople, 1 Delagoa Bay, 5 Dixcove, 1 cs. Genoa, 1 bx. 40 bgs. Gothenburg, 6 Halifax, 6 Leghorn, 2 Lisbon, 4 6 pks. Maranham, 6 37 brls. Melbourne, 20 Montreal, 38 New York, 12 cs. 57 202 Odessa, 105 Ottawa, 2 Para, 1 Pernambuco, 69 pks. Philadelphia, 1 St. John's, N'd'd, 1 brl. San Domingo, 8 Santander, 2 Savanna, 1 cs. Tongshan, 108 pks. Paraffin Wax— Bari, 49 bgs. Rio de Janeiro, 4 cs. Phosphorus— Vera Cruz, 2 c. £22 Yokohama, 5 t. 8 930 Picric Acid— New York, 40 cs. £160
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Potassium Bichromate—

Piræus,	5 c.	2 q.	£12
St. Nazaire,	11	1	24
Alexandria,	4 l.	14	3

Potassium Carbonate—

Genoa,	11 c.		£14
Boston,	17 l.	8	317
Newport News,	1	7	27
B. Ayres,	2	4	1 q.

Potassium Chlorate—

Tampico,	6 c.		£12
New York,	47 l.	2	1,766
Boston,	13	5	623
Konigsberg,	1		40
Amsterdam,	1	4	8
Stettin,	1		40
Odesa,	1	8	64
St. Petersburg,	5		198
Antwerp,	2		90
Cape Town,	1		40
Copenhagen,	5	5	220
Gothenburg,	18	10	8,0
Catania,		5	9
Bilbao,	3	10	140
Rotterdam,	1	6	56

Rosin—

Rotterdam,	16 brls.
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Salt—

Accra,	12 l.	10 c.
Adelaide,		10
Akassa,	473	10
Amsterdam,	124	
Antigua,	8	18
Antwerp,	353	
Baltimore,	278	10
Barbadoes,	100	
Bombay,	3	15
Boston,	312	
B. Ayres,	5	7
Calcutta,	2	2
Cameroon,	26	2
C. C. Castle,	37	10
Cape Lahou,	5	
Conakry,	50	
Ghent,	445	
Gd. Bassam,	30	15
Gd. Lahou,	17	10
Iquique,	100	
Kohring,	164	
Lagos,	100	
Landana,	4	18
Las Palmas,	16	5
Loango,	18	
Manaos,	1,0	
Melbourne,	432	3
Mobile,	712	
Montreal,	775	
Newcastle,	210	
Newport News,	10	
Noqui,	29	
Odesa,		10 cks.
Para,	350	
Rangoon,	2,384	
Rio de Janeiro,	1	5
Rotterdam,	130	
St. John's,	10	
Salt Pond,	25	
San Francisco,	385	
Savannah,	532	
Sierra Leone,	62	
Sinoe,	15	
Sydney,	500	
Valparaiso,	412	

Salt Cake—

Philadelphia,	306 t.	3 c.	£437
Baltimore,	200	17	258

Saltpetre—

Santos,	2 t.	1 q.	£48
Para,	1	9 c.	2
Pariba,	11	2	15
Maranham,	4		5

Sheep Dip—

B. Ayres,	25 t.		£1,000
Belize,		7 c.	12

Slag—

Bordeaux,	101 brs.
Nantes,	50 t.

Soap—

Algou Bay,	2,212 brs.	55 cs.	35 cks.
Ambristrie,	10		
Anamaboe,	25		
Antigua,	250		
Antwerp,		2,400	
Bahia, W.C.A.,	25		
Barbadoes,	1,275	1	
Belize,		5	
Boca,			
Bombay,	918	33	
Boston,		500	
Calcutta,		40	500 brls.
Canaria,	470		
Cameroon,	116		
C. C. Castle,	72		
Cape Town,	1,975		
Catania,	50		

Christiania,

Conakry,	25
Constantinople,	300
Durban,	500
E. London,	2,130
Egwanga,	50
Gibraltar,	318
Gd. Bassa,	20
Havre,	50
Hong Kong,	704
Iquitos,	35
Kinsebo,	200
Lagos,	10
La Guayra,	200
La Plata,	6
Las Palmas,	1,700
Leghorn,	11
Madras,	10
Malta,	30
Manaos,	500
Maranham,	100
Mariopol,	1
Melilla,	50
Monrovia,	20
Montreal,	250
Mon-el Bay,	550
New York,	177
Para,	200
Piræus,	56
Pr. Elizabeth,	200
Pt. Natal,	400
Pram Pram,	50
Quebec,	4
Rangoon,	500
Rufisque,	20
St. John's,	120
St. Lucia,	205
Shanghai,	2,740
Sierra Leone,	80
Singapore,	800
Tangiers,	15
Teneriffe,	123

Soda Ash—

Barcelona,	85 brls.
Brantford,	50
Corfu,	50
Galatz,	40 brs.
Genoa,	35
Leghorn,	52
Lisbon,	50
London, Ont.,	40
Messina,	20
Odesa,	200
Piræus,	10
Quebec,	10
St. John's,	35
Winnipeg,	10

Soda Ash—

Antwerp,	35 cks.
Baltimore,	105
Barcelona,	54
Boston,	194
B. Ayres,	30
Callao,	30
Copenhagen,	350
Penelon Falls,	100
Ghent,	100
Gothenburg,	52
Hamburg,	51
Lisbon,	4
Maranham,	50
Melbourne,	103
Montreal,	27
Newport News,	120
New York,	282
Philadelphia,	270
Piræus,	50 brls.
Rio de Janeiro,	45
Rotterdam,	0
Saltillo,	38
San Francisco,	354
Smyrna,	10
Sydney,	32
Venice,	100
Yokohama,	50

Soda Crystals—

Arica,	20 brls.
Bahia,	15
Boston,	490
B. Ayres,	200
Callao,	25
Constantinople,	100
Genoa,	6 cks.
Halifax,	80
Hiogo,	115 kgs.
London, Ont.,	80
Malta,	135
M. Video,	13
New York,	56
Para,	20
Philadelphia,	166
Rio de Janeiro,	46
Rotterdam,	50
St. John's,	30
San Francisco,	150
Smyrna,	50

Sodium Bicarbonate—

Aalborg,	10 kgs.	1 ck.
Batavia,	40	
Boston,	400	
Constantinople,	30	20 brls.
Copenhagen,	60	10
Danzig,	100	
Galatz,		17
Genoa,	30	8
Gibraltar,		
Gutujewski,	320	
Halifax,	100	
Hamburg,	20	3
Iquique,		20 brs.
Lisbon,	30	
Malaga,	30	
Melbourne,	350	8
M. Video,	30	50
Montreal,	25	
Nantes,	100	
Odense,	34	
Odesa,	50	5
Oporto,	20	
Philadelphia,	50	
Piræus,	20	
Randers,	7	
Rotterdam,	105	
St. John's,	71	
St. Petersburg,	100	
San Juan,	30	
Santos,	10	
Stettin,	40	14 brls.
Sydney,	10	
Yokohama,	1,000	

Sodium Chlorate—

Vera Cruz,	2 cks.
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Sodium Hyposulphite—

Portland,	25 kgs.
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Sodium Prussiate—

Boston,	8 cks.
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Sodium Silicate—

Alicante,	38 cks.
Barcelona,	30
Bombay,	16
Madeira,	6 brls.
Melbourne,	32
New York,	20
Odesa,	5
Oporto,	20
Rio de Janeiro,	7
San Francisco,	250 brs.
Santander,	32
Tarragona,	10

Sodium Sulphate—

Bombay,	12 cks.	£7
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Starch—

Gothenburg,	8 brs.
Maranham,	16

Strontia—

Hamburg,	10 t.	8 c.	£90
St. Petersburg,	25	3	209

Sulphur—

St. Petersburg,	25	3	200
Sulphur—			
Ghent,	7 t.		£25
Montreal,	215	2 c.	785
S. John's, N.B.,	1	5	8

Sulphuric Acid—

Porto Alegre,	2 c.	£11
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Superphosphate—

Teneriffe,	6 t.	£14
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Tartaric Acid—

Tampico,	1 cs.	£3
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Treacle—

Antwerp,	27 hf.-pns.
Ghent,	10
Gibraltar,	25 cs.
Gothenburg,	10 brls.
Norrkoping,	25 cks.
Rotterdam,	35
Stettin,	25
Terneuzen,	6
	21

Turpentine—

Ferrol,	2 brls.
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Varnish—

Cadiz,	4 brls.
St. John's,	2 cs.
Seville,	8 cks.
Sourabaya,	30 dms.
Valparaiso,	2
	4

White Lead—

Bahia,	20 kgs.
Calcutta,	160

Whiting—

Calcutta,	50 brls.
Valparaiso,	100
	110 brs.

Zinc Chloride—

Zinc Chloride—			
Calcutta,		14 c.	£11
Bombay,	7 cks. 8 t.	5	172

MANCHESTER

Week ending September 18th.

Chemicals (otherwise under other)

Nantes,	470 bgs.
Antwerp,	5 cs. 23 kgs.
Hamburg,	1 ck.
Rio de Janeiro,	1
Rotterdam,	2

Coal Products (otherwise under)

Hamburg,	14 cks.
Rotterdam,	7
Antwerp,	6
Treport,	5 cs. 78
	8 brls. 26 l.

Copper Sulphate—

Tragsund,	14 cks.
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Cresote Salt—

Treport,	55 cks.
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Glue—

Rotterdam,	10 cks.
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Painters' Colours—

Antwerp,	1 cs.
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Paraffin Wax—

Hamburg,	5 cs.
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Pitch—

Antwerp,	1,179 c.
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Sodium Bicarbonate—

Treport,	70 kgs.
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Sulphuric Acid—

Bombay,	10 cs.
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HULL.

Week ending September 14th.

Alkali—

Bari,	18 dms.
Moliffeta,	18
Riga,	2 cks.

Ammonium Sulphate—

Dunkirk,	250 bgs.
New York,	513

Asbestos—

St. Petersburg,	4 cs.
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Benzol—

Amsterdam,	48 cks. 11 dms.
Rotterdam,	24

Bleaching Powder—

Fiume,	35 cks.
Norrkoping,	7
Odesa,	15
Stettin,	111
Trieste,	5

Borax—

Wasa,	1 cs.
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Caustic Soda—

Antwerp,	20 kgs.
Abo,	7 cks. 7 cs. 23 dms.
Christiania,	1
Reval,	310 kgs.
Wyburg,	20 brs.

Chemicals (otherwise under other)

Antwerp,	6 cks. 6 cs.
Amsterdam,	150 kgs.
Abo,	122
Bombay,	267
Christiania,	40
Copenhagen,	90
Gothenburg,	3
Ghent,	1
Hamburg,	12
Harlingen,	20
Konigsberg,	2
New York,	10
Odesa,	35
Rotterdam,	45
Reval,	54
Riga,	30
St. Petersburg,	1
Stavanger,	5 pks.
Stockholm,	50
Stettin,	18
Trieste,	15
Wyburg,	38
Wasa,	13

China Clay—

Helsingfors,	10
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affs (otherwise undescribed)

ania,	50 bgs.		
antinopie,	6 cs.		
ngfors,	1		5 dms.
ork,			
	10 cks.		
dam,	1		
	3 bgs.		
tersburg,	5		
	151		
heim,	4 bgs		
tone—			
elphia, 1,021 t.			
ed Oil—			
ay,	60 c.		
	11		
ania,	650		
iansand,	35		
antinopie,	4		
hagen,	21		
heim,	249		
nburg,	21		
urg,	158		
ork,	20		
nger,	91		
e,	126		
re—			
rk,	110 t.		
holm,	5		
e	760		
al White—			
	200 bgs.		
ngen,	200		
ets—			
	20 cks.		
ngfors,	15		
	30		
ha—			
hagen,	6 cks.		
ers' Colours—			
erp,	23 cks, 2 cs. 12 dms.		
	80 pkr.		
rdam,	18		1 kg.
	4		
ay,	3	70	
n,			178
tiania,	3		
tiansand,	2		167 pks.
antinopie,	4		240 pkgs.
hagen,	6		3 dms.
rk,	1	2	
heim,	10		
nburg,			50 pkgs.
urg,	22		
ngen,		1	
ngfors,	32	10	1
ork,	354		
a,	200		
ndam,	3	3	27 pks.
	5		6 dms.
tersburg,	61	3	
nger,			57
solm,	132		
n,	10		1
rg,	1		20 pks.
rg,	100		
horus—			
rg,	6 cs.		
—			
erp,	74 t.		
chee,	9 cks,		
	159		
	50 bgs.		
erp,	1 kg.		
nburg,	1 cs.		
urg,	5		
	1		
tersburg,	11		
	1		
—			
hagen,	20 cs.		
a,	450		
—			
rdam,	16 cks.		
	14		
erp,	1 ck. 1 dm.		
	15		
n,	2		
hagen,	1		
rdam,	4		
	12		
h—			
a,	1 ck.		
hagen,	4	1 cs.	
nburg,		1	
		1	

Whiting—

Hamburg, 20 bgs.

GLASGOW.

Week ending September 19th.

Albumen— U.S.A.,		£191
Ammonium Sulphate— Rotterdam,	10 t.	
Bordeaux,	10	1 c.
Demerara,	43	
Nantes,	92	10
U.S.A.,	10	5½
France,	5	7
Genoa,	25	6½
Valencia,	122	¾
Antwerp,	50	
Borax— Christiania,	11 c.	
Oporto,		£24
Melbourne,		20
Caoutchouc— Christiania,	1 trus	
Caustic Soda— Calcutta,		£320
Melbourne,	10 t. 10½ c.	
Chemicals (otherwise undescribed) Christiania,	10 brls.	
Rotterdam,	7 t	
Singapore		£20
Chloride of Lime— Valparaiso,		£50
Coal Products— Aniline Colours		
U.S.A.,		£103
Carbolic Acid		
Christiania,	15 brls.	
Cresote Oil		
France,		£165
U.S.A.,		99
Naphtha Antwerp,	20 t.	
Pitch Toronto,		£53
Canada,		100
Oporto,		290
U.S.A.,		1,150
Danzig,	90 t.	
Antwerp,	260	
Tar Bombay,		£25
Montreal,		50
Turkey,		242
Danzig,	151 t. 10 c.	
U.S.A.,		149
Tar Oil Danzig,	92 t. 10 c.	
B. Ayres,		£73
Cod Oil— Brisbane,		£45
Melbourne,		267
Copperas— Calcutta,		£35
Cottonseed Oil— Demerara,	1 t. 17¼ c.	
Dyestuffs— Extracts Canada,		£140
Victoria, Aust.,		146
Logwood Sydney,		£50
Farina— Calcutta,		£114
Gelatine— Canada,		£237
U.S.A.,		160
Glucose— U.S.A.,		£50
Glue— Drontheim,	2 bgs.	
Iodine— Rotterdam,		£250
Linseed Oil— Bangkok,	8 t. 8 c.	
Trinidad,	2 11½	
Adelaide,	3 10½	
Brisbane,	6 18½	
B. Ayres,	2 8	
Canada,	19 14½	
Queensland,	5	
Manganese Oxide— New York,		£105
Paint— Bombay,		£17
Cienfuegos,		29
Havana,		116
Valparaiso,		71
Canada,		20
Georgetown,		20

TYNE.

Week ending September 14th.

Alkali—		
Rotterdam,	11 l.	18 c.
Gothenburg,	6	5
Alum—		
Rotterdam	10 t.	
Ammonium Sulphate—		
Odense,	5 t.	
Antimony—		
Hamburg,	2 t.	
St. Petersburg,	10	
Rotterdam,	1	
Barium—		
Rouen,	10 t.	6 c.
Barytes—		
Hamburg,	155 l.	13 c.
St. Petersburg,	75	
Rotterdam,	10	
Bleaching Powder—		
Hamburg,	33 t.	15 c.
Antwerp,	45	1
Stockholm,	25	1
Christiania,	11	12
St. Petersburg,	216	18
Copenhagen,	10	2
Rotterdam,	8	5
Trondhjem,	10	

Riga,	19	16
Göthenburg,	14	18

BORAX—

Carbolic Acid —
Odense, 12 C.

Caustic Soda—

Hamburg,	20 t.	17 c.
Stockholm	20	16

Stockholm,	9	10
Arendal,	2	18

St. Petersburg,	30	3
Copenhagen	1	8

Gorhenburg,	50	4
-------------	----	---

Litharge —
Stockholm, 194: 11.6.

Riga,	5	2
-------	---	---

Magnesia—

St. Petersburg, 5 c.
Pitch

St. Petersburg, 27 t. 15 c.

Soda—

Hamburg,	31 c.	11 c.
Stockholm,	70	15

GOOLE.

Week ending September 11th.

Benzol—		
Dunkirk,	1 ck.	
Chemicals (<i>otherwise undescribed</i>)		
Antwerp,	3 cks.	
Ghent,	1 cs.	
Coal Products (<i>otherwise undes.</i>)—		
Antwerp,	1 ck.	
Boulogne,	3	2 cs.
Ghent,	14	
Hamburg,	42	
Rotterdam,	38	
Colours—		
Boulogne,		2 cs.
Ghent,		1
Hamburg,	1 ck.	
Rotterdam,	2	
Manure—		
Boulogne,	25 bgs.	
Pitch—		
Antwerp,	444 l.	

GRIMSBY.

Week ending September 14th.

Chemicals (*otherwise undescribed*)
 Dieppe, 5 cks.
 Hamburg, 12 cs. 40 dms. 24 btl.
 Antwerp, 5 cks.

Coal Products (*otherwise undes.*)—
 Dieppe, 82 cks. 1 cs.
 Rotterdam, 11

Colours—
 Antwerp, 1 ck. 3 cs. 42 pks.
 Hamburg, 2

Dyestuffs (*otherwise undescribed*)
 Antwerp, 2 cks.

Manure—
 Malmo, 10 cks.

Pitch—
 Hamburg, 58 cks.
 Malmo, 5

PRICES CURRENT.

WEDNESDAY, SEPT. 25TH, 1911

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.B. at maker's works, or at usual ports of shipment in U.K. The price in different localities may

Acids:—		£ s. d.	
Acetic, 25 % and 40 %	per cwt.	6/ & 9/-	
Glacial		40/-	
Arsenic S.G., 2000°		0 15 0	
Fluoric	per lb.	0 0 3 1/4	
Muriatic (Tower Salts), 30° Tw.	per bottle	0 0 10	
(Cylinder), 30° Tw.		0 3 0	
Nitric 80° Tw.	per lb.	0 0 1 1/2	
Nitrous		0 0 1 1/4	
Oxalic	nett	0 0 3 1/4	
Phosphoric, 1750°		0 1 1	
Picric		0 0 10	
Sulphuric (fuming 50 %)	per ton	15 10 0	
(monohydrate)		5 10 0	
(Pyrites, 168°)		3 0 0	
(free from arsenic, 145°)		1 7 6	
Sulphurous (solution) S.G. 1025		3 0 0	
Tannic (pure)	per lb.	0 1 0	
Tartaric		0 0 11 1/4	
Arsenic, white powdered	nett per ton	15 0 0	
Alum (loose lump)		4 12 6	
Alumina Sulphate (pure)		4 12 6	
Aluminoferrous		2 7 6	
Aluminium	per lb.	0 2 10	
Ammonia, Anhydrous		0 1 3	
" 880=28° B.	per lb.	0 0 3	
" =24° B.		0 0 2 1/4	
Carbonate	nett	0 0 3 1/4	
Muriate	per ton	23 10 0	
(sal-ammoniac) 1st & 2nd	per cwt.	39/- & 37/-	
Nitrate	per ton	38 10 0	
Phosphate	per lb.	0 0 6 1/4	
Sulphate (grey) London	per ton	8 17 6	
(grey) Hull		8 16 3	
Aniline Oil (pure)	per lb.	0 0 5 1/4	
Aniline Salt		0 0 4 1/4	
Antimony	per ton	31 10 0	
(tartar emetic)	per lb.	0 0 7	
(golden sulphide)		0 0 10	
Barium Chloride	per ton	6 7 6	
Carbonate (native)		3 5 0	
Sulphate (native levigated)		42/6 to 63/-	
Bleaching Powder, 35 %	nett	7 0 0	
Liquor, 7 %		3 10 0	
Bisulphide of Carbon		13 5 0	
Chromium Acetate (crystal)	per lb.	0 0 6	
Calcium Chloride	per ton	2 2 6	
China Clay (at Runcorn) in bulk		15/- to 30/-	
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 %	nett per lb.	0 0 8	
Magenta		0 3 0	
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0 0 11 1/2	
Benzol, 90 % nominal	per gallon	0 1 0	
50/90		0 1 0	
Carbolic Acid (crystallised 40°)	per lb.	0 0 5 1/4	
(crude 60°)	per gallon	0 1 6 1/2	
Creosote (ordinary)		0 0 1 1/2	
(filtered for Lucigen light)		0 0 2	
Crude Naphtha 30 % @ 120° C.		0 0 5 1/4	
Grease Oils, 22° Tw.	per ton	2 10 0	
Pitch, f.o.b. Liverpool or Garston		1 15 0	
Solvent Naphtha, 90 % at 160°	per gallon	0 1 0	
" Lucigen " and " Wells " Oils		0 0 2 1/2	
Copper	per ton	46 12 6	
Sulphate		16 10 0	
Oxide (copper scales)		41 10 0	
Glycerine (crude)		16 10 0	
(distilled S.G. 1250°)		42 10 0	
Iodine	nett, per oz.	0 0 9	
Iron Sulphate (copperas)	per ton	1 5 0	
Sulphide (antimony slag)		2 0 0	
Lead (sheet) for cash		12 2 6	
Litharge Flake (ex ship)		13 15 0	
Acetate (white)		22 10 0	
brown		14 10 0	
Carbonate (white lead) pure		16 0 0	
Nitrate		19 0 0	
Lime, Acetate (brown)	per ton	5 7	
(grey)		8 0	
Magnesium (ribbon and wire)	per oz.	0 2	
Chloride (ex ship)	per ton	2 7	
Carbonate	per cwt.	1 17	
Hydrate	per ton	17 0	
Sulphate (Epsom Salts)	per ton	3 0	
Manganese, Sulphate		17 0	
Borate	per cwt.	2 15	
Ore, 70 %	per ton	4 5	
Methylated Spirit, 61° O.P.	per gallon	0 1	
Naphtha (Wood), Solvent		0 3	
Miscible, 60° O.P.		0	
Oils:—			
Cotton-seed	per ton	18 0	
Linseed		22 0	
Petroleum, American	per gallon	0 0	
Stearine	per ton	24 0	
Phosphorus (yellow)	per lb.	0 2	
(red)		0 2	
Potassium (metal)	per oz.	0 1	
Bichromate	nett per lb.	0 0	
Carbonate, 90 % (ex ship)	per ton	17 0	
Chlorate	per lb.	0 0	
Cyanide, 98 %		0 1	
Hydrate (Caustic Potash) 80/85 %	per ton	21 10	
(Caustic Potash) 75/80 %		20 0	
(Caustic Potash) 70/75 %		19 10	
Nitrate (refined)	per cwt.	1 1	
Permanganate	per cwt.	2 17	
Prussiate Yellow	per lb.	0 0	
Sulphate, 90 % (ex ship)	per ton	9 15	
Muriate, 80 % (do.)		8 10	
Silver (metal)	per oz.	0 2	
Nitrate		0 2	
Sodium (metal)	per lb.	0 2	
Carb. (refined Soda-ash) 48 %	nett per ton	4 15	
(Caustic Soda-ash) 48 %		3 17	
(Carb. Soda-ash) 48 %		3 15	
(Alkali) 58 %		3 15	
(Soda Crystals)		2 2	
Acetate (ex-ship)		14 0	
Arseniate, 45 %		11 0	
Chlorate	per lb.	0 0	
Borate (Borax)	net, per ton	19 0	
Bichromate	per lb.	0 0	
Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton		9 7	
(74 % Caustic Soda)		8 7	
(70 % Caustic Soda)		7 10	
(60 % Caustic Soda)		6 11	
(60 % Caustic Soda, cream) (f.o.b.)		6 7	
Bicarbonate		6 10	
Hypsulphite		5 10	
Manganate, 30 %		16 0	
Nitrate (95 %) ex-ship Liverpool	per cwt.	0 8	
Nitrite, 98 %	per ton	29 0	
Phosphate		13 10	
Silicate (glass)	per ton	4 10	
(liquid, 100° Tw.)		3 10	
Stannate, 40 %	per cwt.	3 2	
Sulphate (Salt-cake)	per ton	1 2	
(Glauber's Salts)		1 3	
Sulphide		8 0	
Sulphite		5 3	
Strontium Hydrate, 100 %		8 10	
Sulphocyanide Ammonium, 95 %	per lb.	0 0	
Barium, 95 %		0 0	
Potassium		0 0	
Sulphur (Flowers)	per ton	6 0	
(Roll Brimstone)		5 0	
Brimstone: Best Quality		12 6	
Superphosphate of Lime (26 %)		2 7	
Tallow		22 10	
Tin Crystals	per lb.	0 0	
English Ingots	per ton	68 0	
Zinc (Spelter)		15 7	
Chloride (solution, 100° Tw.)		5 7	

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437.

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CURRENT TOPICS.

CRUSADE AGAINST LIMA CRUDE OIL.

A PROPOSAL has been made in the States to place Lima
and Pennsylvania oils on the same footing, by making
Lima crude a good delivery on the New York Exchange,
against which a firm stand is being taken by a certain section
of the producers.

Lima oil has certainly by now had ample opportunity for
establishing its claims to equality with so-called "Pennsyl-
vania" crude. In the commercial world it does not appear
to have found great favour, and apparently the aim of
securing the approval of the Exchange is to purchase a
reputation which it has been found impossible to earn. It is
certainly not desirable that this should be. The dollar can
accomplish almost anything in connection with oil in the
States, but we feel secure in the belief that the integrity of
the comptrollers of the Exchange is too high and held too
sacred to permit of its being "diluted" with lucre.

The arguments of those opposed to the removal of the hitherto
existing commercial distinction between the two oils are
certainly plain and pointed, and require very ample refuta-
tion before they can be honestly laid aside or ignored. It is
possible to produce Lima oil which compares very well with
Pennsylvanian when quite freshly refined, but on storing it
acquires an objectionable odour, and soon deteriorates. The
knowledge of this fact, in conjunction with the recognised
reputation of the Lima oil, enables but one interpretation to be
put upon the proposal to obliterate the present distinction
made by the Exchange, which is—that the contemplated
change originates in a desire to deliver an inferior article in
a contract that calls for a superior. If this is denied on the
ground that the oil to be delivered under the changed rules
will be always as good as that contracted for, why cannot it
be openly sold as "Lima" oil, and so expressed in the con-
tract? If under the present rules it is impossible to sub-
stitute Lima in contracts (from which it is barred on account
of its objectionable properties), why is it necessary that the
rules should be altered before this new quality of Lima is
put on the market. Obviously there is no just ground for
any change tending to place the two classes of oil on the
same footing as regards quality, until the Lima oil
has incontrovertibly established its equality. When
it has done this, it will be a matter of no consideration
whether the Exchange rules classify it with Pennsylvanian or
not, because for all practical commercial purposes it will be
known to be one and the same thing, and objections will no
longer be raised to contracts being so framed as to permit
the delivery of either oil—which is not the case at present.

These are important considerations, all of which are of
interest to oil consumers on this side, for as it is this country
is a dumping ground for all the indifferent or bad American oil—

chiefly bad. The Standard is known to have been troubled with shortness of Pennsylvanian crude, though possessing plenty of Lima, and it is encouraging to see a stand being made against such a barefaced attempt to foist the latter on a long-suffering market as reliable Pennsylvanian oil.

THE CYANIDE PATENTS.

The interesting and instructive litigation that took place in the early part of this year over certain patents for the use of potassium cyanide in the extraction of gold, affords an excellent insight into some of the useful intricacies of the Patent Law. The adverse decision of Mr. Justice Romer and the subsequent judgment delivered in the Court of Appeal were calculated to leave a false impression in lay minds as to the validity of the patent of the African Gold Recovery Co.

The patent of this Company was severely handled by Mr. Justice Romer, and the higher Court, though reversing the judgment of the lower Court on every single count save one, finally decided that the patent was not valid.

The peculiar ground, however, on which the invalidity was based, permitted special remedial steps to be taken—and in this wise. Their lordships upheld the patent on every ground save that one of the claims could be interpreted as embracing more than the patentees intended or the specification warranted. For the nonce, therefore, they had to find the patent invalid. In such a case, however, it is possible for the patentee to enter a disclaimer regarding the invalidating section. This was done, the modification made being virtually no modification at all, as far as the company is concerned. As no appeal was made against this disclaimer the patent is now, so to speak, "repaired." Under these conditions the patent becomes once more perfectly valid, and remains so to-day, having the entire approval of the High Court of Appeal. In effect, by the removal of this technical difficulty, a patent stamped with a judgment against its validity becomes perfectly valid and practically unassailable.

THE VALUATION OF NITROGENOUS FERTILIZERS.

(Concluded from page 196).

IN looking over the record of the Association of Official Agricultural Chemists, we find that the modified Kjeldahl method has been testified by the Association in the year of its adoption and, with one exception, every year since on from one to five samples. Only four of these have contained chlorides, and only one in any considerable quantity. The modified Gunning has been tested by the Association on only one sample containing chlorides. These samples with the approximate percentages of chlorine, total nitrogen, and nitric nitrogen, and the variation in results reported, expressed in percentage of total nitrogen present, are shown in Table IV. All results which are so far from the average as to indicate accident are omitted, according to the custom followed by the reporters of the Association in averaging their results.

TABLE IV.—ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. SAMPLES CONTAINING CHLORIDES.

Sample.	Method.	Chlorine, per cent.	Total Nitrogen, per cent.	Nitric Nitrogen, per cent.	Variation, per cent.
No. 4, 1888	Modified Kjeldahl	5	3.16	1.64	33.4
No. 1, 1889	"	1.5	15.91	15.91	3.0
No. 3, 1889	"	2.5	3.55	1.48	14.1
No. 2, 1893	"	1.5	5.77	3.47	8.8
No. 2, 1893	Modified Gunning	1.5	5.77	3.47	7.5

To further test this question, determinations were made, in duplicate, on samples Nos. 2, 3, and 4, with one half-gram of potassium chloride added. Table V. shows the average results with and without chlorides, the methods being carried out exactly in the same way as before.

TABLE V.—PER CENT. NITROGEN FOUND WITH AND WITHOUT CHLORIDES.

No.	Calculated.	Modified Kjeldahl.		Modified Gunning.	
		Without KCl.	With KCl.	Without KCl.	With KCl.
2.....	8.50	8.51	8.37	8.50	8.35
3.....	8.50	8.48	8.40	8.50	8.25
4.....	8.10	8.12	8.04	8.08	7.92
Average..	8.37	8.37	8.27	8.36	8.17

A portion of the sodium nitrate used in preparing these mixtures was now taken. It had been shown by the silica fusion method that it contained 16.38 per cent. nitrogen. The modified Kjeldahl showed 16.39 per cent. nitrogen.

Portions of one-half gram were taken for each determination mixed with the same amount of potassium chloride. The digestion was carried out in the usual way.

The results were:

Modified Kjeldahl.	Modified Gunning.
16.32	15.82
16.09	15.68
15.96	15.83
15.97	15.46
16.23	16.02*
15.95	15.99*
16.07	15.86*
16.13	

* Two grams salicylic acid used.

The Winton modification was then tried and care taken gently for some time after adding zinc dust before raising which was done gradually.

Results were:

16.27
16.30
16.30
16.34

Average 16.30

Indicating that the greatest care in the reduction process entirely prevent loss.

To ascertain more definitely at what stage in the process the loss occurs, mixtures of one gram each sodium nitrate and potassium chloride were treated as in an analysis, and escaping from the flask were made to pass through a solution containing potassium hydroxide. The nitrates and nitrites were converted into ammonia and estimated by Nessler's reagent, using for comparison a solution of a chloride containing 0.0001 gram nitrogen in each cc. The mixture was divided into four stages: (a) addition of sulphuric acid; (b) addition of reducing agent; (c) gentle heating until gas ceased; (d) brisk boiling for a few minutes. After gas has ceased in the first and second stages, and after removal of the flame in the fourth, a glass tube was inserted through the neck of the flask, reaching nearly to the surface of the liquid, the bulb-tube of an aspirator, and the gases contained in the flask thus drawn off. The following table (VI.) shows the results obtained expressed in terms of per cent. nitrogen on the basis of one stage:—

TABLE VI. Nitrogen Recovered.

Reducing Agent used.	Temperature.	a.	b.	c.	d.	Total
Zinc Dust.....	20°	0.023	0.006	0.026	0.008	0.063
".....	24°	0.027	0.005	0.034	0.013	0.079
Na ₂ S ₂ O ₃ in presence of K ₂ SO ₄	22°	0.090	0.027	0.061	0.017	0.195
Na ₂ S ₂ O ₃ in absence of K ₂ SO ₄	20°	0.090	0.027	0.035	0.013	0.165
Zinc Dust ¹	27°	0.039	0.001	0.006	0.011	0.057

Where zinc dust was used the acid mixture contained two parts salicylic acid; where thiosulphate was used, one.

The results indicate: 1. That the greatest losses occur on the addition of the acid mixture and on the first application of heat. The former is thought to be due to the liberation of hydrochloric acid on direct contact with the nitrate before the mass has become wetted by the sulphuric salicylic acid mixture.

2. The total loss exclusive of the first stage is greater with thiosulphate than with zinc dust, and appears to be greater when thiosulphate is added with the thiosulphate than when the latter is added alone. By exercising care in the addition of the reducing agent, the application of heat, the loss in the last three stages is reduced to a very small amount.

3. At a given temperature, the loss on addition of acid mixture is greater where the mixture containing less salicylic acid is used.

4. Using the same quantity of salicylic acid, the loss on addition of the acid mixture appears to increase with the temperature.

5. The total amount of nitrogen recovered being less with the thiosulphate than with the zinc dust, the average discrepancy showed by analysis under similar conditions appears probable that there may be some loss later on in the process.

These facts explain why the Kjeldahl gave better results with a mixture of nitrate and chloride than did the Gunning; while the latter gave better than either.

¹ Some precautions taken as in working Winton's modification on nitrate and chloride, see above.

connection the heat generated on the addition of the reductants of interest. The average of seven determinations each on and thiosulphate, both added in the usual way, showed, for the former, an increase of temperature of 21° ; for the latter, of 40° . In the opinion of the writer, the prolonged digestion of the Winton mixture is useful, in the presence of chlorides, not only in securing completion of the nitrate, but also in allowing the contents of the flask (for the heat generated by the action of the acid mixture on chlorides is considerable) and to absorb a slight amount of oxygen from the air, thus rendering the action less violent when zinc is added.

Portions of one-half gram each sodium nitrate and potassium chloride, with acid mixture cooled down to 8° , and digested as in the method before addition of zinc dust, showed by the modified Gunning method 16.34 per cent. and 16.32 per cent., or 99.6 per cent. of the amount found in the absence of chlorides.

Determinations by the modified Gunning on the same mixtures, in which the acid mixture was cooled to from 8° to 12° , the thiosulphate was added slowly and with constant shaking and cooling of the flask, and continued some time after the liquid had become colourless, gave results:—15.02 per cent., 15.88 per cent., 16.16 per cent., and 15.99 per cent. average, 16.01 per cent., or only 97.8 per cent. of the amount found in chlorides were not present.

Determinations on the same sample of pure nitrate alone by the Gunning method, carried out in slightly different ways, gave the following results:—When carried out with mixed fertilizers, 16.16 per cent. and 16.24 per cent.

When phosphate added first and heated before adding potassium thiosulphate, 16.16 per cent. and 16.24 per cent. When phosphate added slowly with shaking and cooling, but digestion continued as soon as liquid became colourless, 16.10 per cent.

When phosphate added as above, digestion continued one hour after the liquid became colourless, 16.31 per cent. and 16.32 per cent.

When potassium permanganate used, 16.37 per cent.

When Kjeldahl, using thiosulphate (five grams added direct), gave 16.37 per cent. and 16.36 per cent.

It is well to state now that all the results given in this paper are for reagents. At first a blank was run with every five determinations. After three or four such blanks had been made for food and found to agree closely, their average was taken and every result obtained by that method. Whenever it was necessary to change any of the reagents, another blank was run. The results here given would seem to warrant the following conclusions:

1. Ordinary fertilizers containing little or no chlorides, the methods are perfectly reliable if the directions are followed and the digestion in the modified Gunning is continued for at least 30 minutes after the liquid has become practically colourless. 2. Imperfections which sometimes occur under these circumstances are due to faulty preparation of the sample.

3. When working with samples containing considerable amounts of iron, it is advisable to use the modified Kjeldahl (zinc dust) method and to cool the acid mixture before adding it to the substance. 4. It is also advisable to digest for some time at ordinary temperature before adding zinc dust. No way has been found by which equally reliable results can be obtained by the modified Gunning method in the presence of large amounts of chlorides, together with high percentages of nitric nitrogen.

5. When determining high percentages of nitric nitrogen by the Gunning method, it is necessary either to continue the boiling time after the contents of the flask have become colourless, or to add potassium permanganate to complete the action.

PAINTING AND PROTECTING IRON AND STEEL WORK.

CONSIDERING the immense quantity of steel work now erected, the question of the best paint, and the best method of applying it, is one of very great importance. In this country the choice is between an iron oxide or a lead paint, both having a good reputation. Some links in the anchorage of the old Hammersmith suspension bridge were found in a perfect state of preservation when removed from the bridge, where they were employed for some of the temporary work. The pigment in this case was white lead, though this has had a bad reputation for this class of work. In the so-called asphaltum paints have also come largely into use, and a recent communication to the American Society of Civil Engineers, Mr. E. Gerber gives the results of a careful investigation of the present state of a number of bridges which had been painted with the above three classes of paint. In all cases rust was found to a greater or less extent, occurring always in spots in the centre of the metal. Most of this, however, was thin, and was as bad in

new structures as in old. It was, however, found that the iron oxide paints adhered more firmly to the metal than the lead paints, only one case being found in which the latter adhered well and was tough. It is, however, suggested that much of this brittleness was due to the adulteration of the oil by turpentine, benzine, or other petroleum products. There is more likelihood of such adulteration with lead paints than with iron, as they are more difficult to spread, and there is thus more temptation to dilute the oil. In some cases, bridges coated with iron oxide 11 or 12 years ago were still in good condition, without having been repainted. Only two of the bridges examined had been painted with carbon or asphaltum paints, but the condition of things in these two cases was found to be not altogether satisfactory, as in neither case was the coating tough and adherent. The metal had, however, been protected by them. Mr. Gerber considers that too little attention has, in the past, been paid to thoroughly cleaning the metal before the first coat of paint is applied. Most of the rust spots found had apparently been there from the outset, and had done no harm so long as not too far advanced. The best plan of securing clean surfaces, in Mr. Gerber's opinion, would be to coat the metal with linseed oil as it left the rolls.—*Engineering*.

AMERICAN AND RUSSIAN PETROLEUM IN DENMARK.

ROBERT J. KIRK, U.S. Consul at Copenhagen, in a recent report to the State Department gives the following figures showing the use of American and Russian petroleum in Denmark for the last five years.

On January 1st, 1894, the stock on hand was as follows:—

Date.	American.		Russian.
	Water white. Cwt.	Standard white. Cwt.	
Stock, January 1st, 1894	12,174	168,435	31,779
Imported in 1894	100,017	573,929	78,260
Total during 1894	112,191	742,364	110,039
Stock, January 1st, 1895	28,523	88,821	35,857
Consumed during 1894	83,668	653,543	74,182

The past year, therefore, shows an increase in consumption. When the sales for the delivery during the season started in the month of April, the price was about $\frac{1}{4}$ of one ore per pound nett lower than the year before, and this price remained stationary till the end of September, when a small rise began, and continued till the end of the year, when it reached $\frac{1}{2}$ of one ore per pound net. This price is exclusive of the receptacle; formerly prices included packing, but owing to the fact of the use of tank steamers and the erection of tanks as wholesale receptacles, and as the petroleum is now sold to dealers direct from the tank, in whatsoever vessel they please to offer, the price is quoted without the cost of packing. The usual form in which it is delivered to consumers is in bottles, corked and labelled much after the fashion of liquors. The big tin barrel with pump attachment and hinged cover over the whole, so common in American corner-shops, is absolutely unknown here. I believe these receptacles could be sold readily here, as they avoid the trouble of having to bottle the oil for delivery, and can be filled readily from the tank.

The quotations to wholesale dealers at the end of the year were as follow, per cwt.:—American, water white, 7.45 kroner (8s. 4d.); standard white, 6.20 kroner (6s. 11d.); Russian, 5.70 kroner (6s. 2d.). At the old price, including packing, the quotations would have been, respectively, 1.50 kroner (1s. 8d.) higher—that is to say, the cost of the barrel.

The relative consumption of American and Russian petroleum during the last five years is shown in the following figures:—

Year.	American.		Russian.
	Cwt.	Cwt.	
1890	403,000	123,000	
1891	469,000	128,000	
1892	528,000	123,000	
1893	636,000	118,000	
1894	737,000	74,000	

It will be seen from the above that while the consumption of American oil has steadily increased, the opposite is the case with the Russian article, and particularly during last year there was a heavy decline in the use of Russian petroleum.

As the prices for the American and the Russian article during the same period have been very nearly the same, and are matters of no significance to the poorest consumers, this fact would seem to be a practical proof of the superiority of American oil, and its greater popularity in this market. Dealers claim that Russian petroleum is heavier than the American; also, that it smokes, and does not last as well.

Modern Oil Engines.

THE "CAMPBELL" ENGINE.

THIS engine is one of the simplest and most economical on the market. There are only two simple valves, the inlet and the exhaust, and these are so conveniently arranged that they can be taken out, cleaned, and put back again in a few minutes, and, as they are made with metal to metal faces, any unskilled person able to handle a spanner can remove and replace them with ease. The exhaust valve is so arranged that when taken out there is an opening large enough to admit of the cylinder being cleaned without having to take the trouble to remove the piston. The whole engine can be taken to pieces without breaking a single asbestos joint. There are no pumps or fans for starting purposes as in other engines. It is simply necessary to light a lamp, and in the course of a few minutes the engine is ready for starting. When once started, the engine can be stopped and restarted instantly, as required, any time during the day. Another important improvement is the absence of an overhanging cylinder. The working parts, being on the back end of the engine, have made it possible to prolong the engine bed so that the whole of the cylinder is

lated by the governor to suit the load on the engine, maintaining even speed. When running with variable loads the governor the supply of oil when not required for the work, but in some the oil supply is not cut off, only reduced. This method of operation causes great waste of oil with light and variable loads.

In Fig. 1 we show a 10½ B.H.P. engine. This engine is a few that is made in the vertical type, as illustrated in Fig. 2. This particular type is made in 1½, 3, and 5 brake H.P. sizes. Portable and launch types are also made, the former being constructed that driving pulleys can be attached to both sides of the engine and belts taken to machines in both directions, this being a specialty.

MANUFACTURE OF EXPLOSIVES.

AT the meeting of the Manchester City Council on Wednesday, Mr. Pollitt, upon the motion for the approval of the report of the Watch Committee, called attention to a paragraph

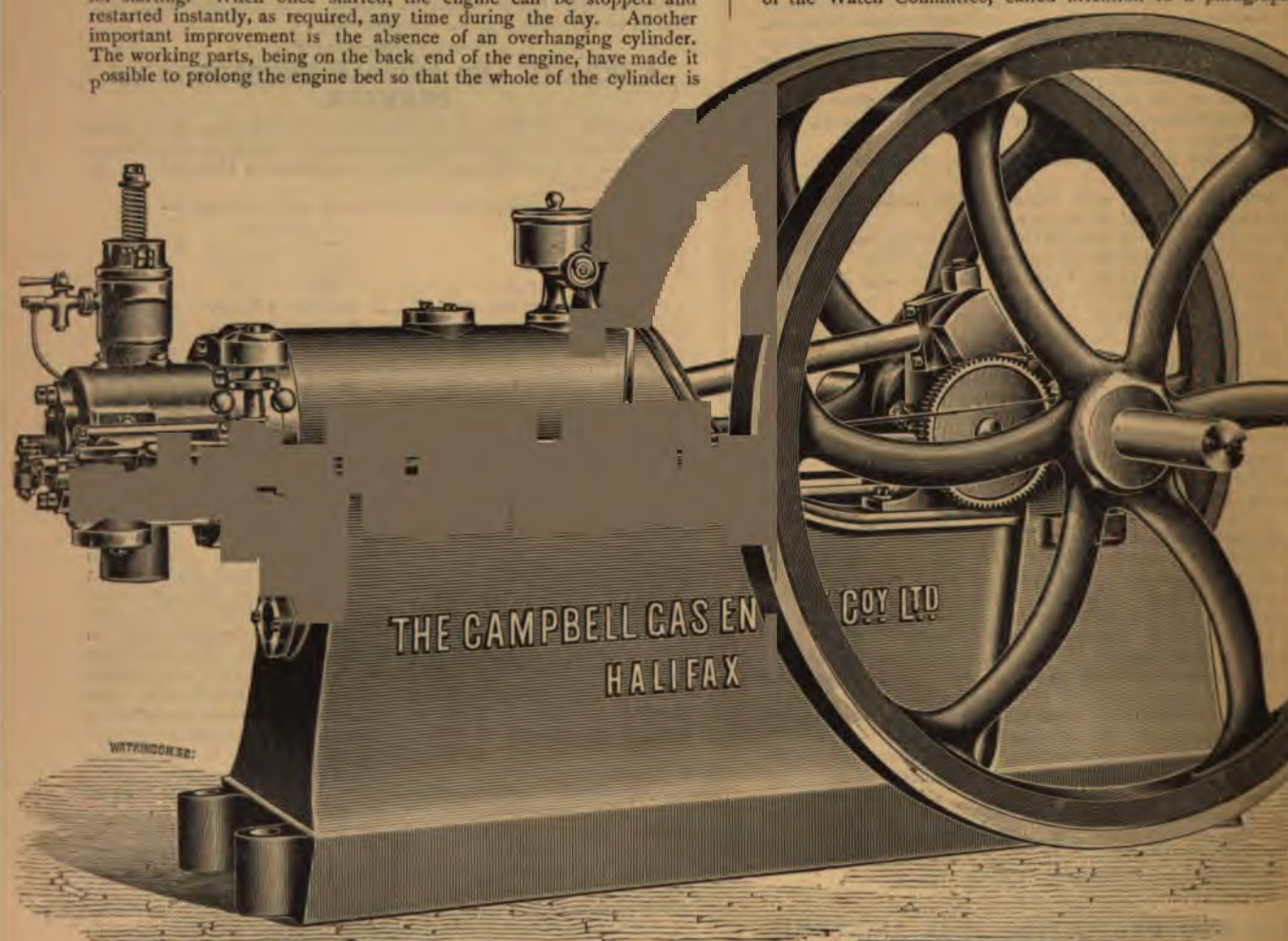


FIG. 1.

solidly supported. This great improvement prevents vibration and makes the engine, when fixed, run steadily and noiselessly, while no heavy foundation is required. The cost of working is about one half-penny per brake H.P. per hour, but the oil consumption of the engine is entirely proportionate to the amount of work done, the governor, automatically, regulating the supply to suit the load. This engine proved itself to be the most economical oil engine on the market by the oil consumption tests of the Royal Agricultural Society made last summer.

Any well-known brand of petroleum, such as "Jessamine," "White Rose," or "Russoline," can be used as fuel.

The heating of the vaporiser is maintained independently of the heat from the explosions in the cylinder, and on this account, with light loads, no attention has to be given to assist the heat of the vaporiser. In some engines a certain load has to be kept on the engine to keep the vaporiser hot. The consumption of the oil is automatically regu-

proceedings which stated that an application had been made to Moseley and Sons, of Ardwick, for a licence to manufacture a dangerous and explosive commodity. Objection had been taken to the erection of a factory for the manufacture of any such dangerous commodity by the tradesmen, shopkeepers, and property owners of the locality, they believed that a great danger would be caused by the existence of such a manufacture in their midst. A local inquiry was held, and a decision was come to that such a licence ought not to be granted. In August, however, a letter was received from the Home Office, effect that the Home Secretary had received the appeal of Moseley and Sons against the decision of the Council, as authority under the Explosives Act, 1875, to the establishment of a factory for explosives for which the Secretary of State granted on the 7th May last. The letter proceeded:—"Sir, I have the honor to acknowledge the receipt of your letter of the 2nd inst. and to inform you that, after careful inquiry into the matter and careful consideration of the objections and of the reasons of the local authority, the

in accordance with the opinion of his technical advisers, that the establishment of the proposed factory would entail no risk whatever (but at the worst of conflagration) with the variety and quantity of nitro-cotton to which by the draft licence Messrs. Moseley intended." The Home Secretary, the letter went on, had therefore to allow Messrs. Moseley and Sons' appeal, and to grant the licence for the establishment in their Chapelfield Works of a factory for a weak variety of collodion cotton, subject to a slight modification of the plan to secure the more complete and satisfactory operation of the factory. In September, 1895, the Chairman of the Committee, Mr. Alderman Mark, sent the following letter to the Secretary:—"Sir,—Your letter to the Town Clerk, dated the 1st August last, in relation to the application of Messrs. Moseley for a licence for the establishment of a factory for explosives, has been under the consideration of the Watch Committee, and they have desired on their behalf to state that the committee, whilst

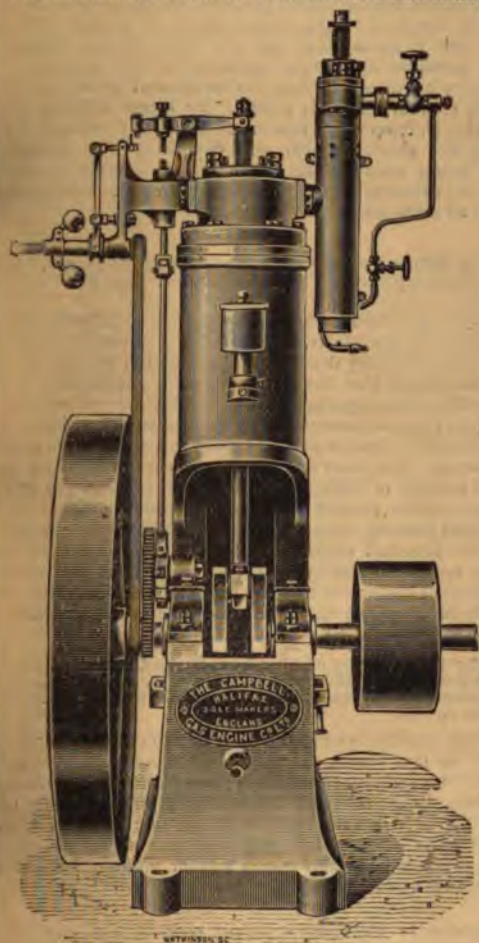


FIG. 2.

regarding the finality of the Secretary of State's decision, are satisfied with the conviction that their determination to dissent, after a public inquiry on the 4th July last, was fully justified in general alarm, and by the depreciatory effect upon the value of the property, which was proved to their satisfaction. The committee, however, feel that they are now relieved of all responsibility in connection with the establishment of the factory." He (Mr. Pollitt) then proposed an amendment that the matter be referred back to the Watch Committee.

Mr. Abbott said he had given notice of a resolution in relation to the matter, which he would ask Mr. Pollitt to accept, to the effect that the matter be referred back to the committee, and that they take further advice on it, and also that the Home Secretary be further communicated with. While he fully recognised the objections raised by Mr. Pollitt, there was another one of much importance, viz., that the Home Secretary in this matter was a blow at the principle of local self-government. It would also mean—and notices to that effect had already been sent out—an increase, in one case of 100 per cent, in the majority of cases of 50 per cent, in the insurance of adjacent business men and property owners. Sir M. W.

Ridley had granted this licence without any reference whatever to the local authority.

Mr. Pollitt assented to the proposal of Mr. Abbott that he should accept his resolution, and Mr. Abbott thereupon said he would second it.

Sir J. Harwood said the amendment should have appended to it an expression of the strong feeling of the Council upon the subject.

Mr. Vaudrey said he had his own view of the matter. He did not assent to all that had been said.

Mr. Samson said no end would be gained by referring the question back. It was purely a legal question. The Council had no jurisdiction in the matter.

Sir J. Harwood said they would all agree with Mr. Abbott that this proceeding was a blow at local self-government. (Hear, hear.)

Mr. Vaudrey said he did not think it was a question of local government at all. The Home Secretary sent an experienced man from the Explosives Department down to inspect the premises, and as the result of that inspection he had seen fit to grant the licence.

The amendment was adopted, and the proceedings of the committee as amended were then passed.

THE UBIQUITOUS SOAP "AD."

THE sagacity of the canny Scot in matters where pounds, shillings, and pence are involved is proverbial. This prudence was recently admirably exemplified by a Presbyterian Church at a place not far from Glasgow. The church was in debt, and the minister's salary, or stipend, as they call it in Scotland, was a gradually vanishing quantity. Report says that the traveller of an enterprising soap firm, hearing of the financial straits to which this particular congregation was reduced, proposed that an advertisement extolling the merits of his special make of soap should be put in some conspicuous place in front of the gallery of the church. In return for this publicity, the firm offered to give the congregation £100 a year for five years. The proposal was gravely debated by the elders and minister of the congregation, who finally agreed to accept the offer. The reasons which led them to this conclusion were numerous and weighty, the most convincing being that urged by one elder, who said that "it would save them putting their hands into their pockets." This is an argument that never fails to appeal to the average Scotsman, who, it has been said, keeps the Sabbath-day and everything else he can lay his hands upon. The enterprise of this congregation, which thus tries to make the best of both worlds, may, however, cause some difficulty in the higher courts of the church, for not long ago, in the Free Church Assembly, one speaker objected very strongly to advertisements being inserted in the cover of the official missionary magazine which is circulated among the churches. His religious sense was shocked, he said, on seeing the virtues of cocoa and pills set forth in every pew in his church on the Sabbath day. Perhaps soap does not come within the proscribed category, since, as one of the elders of the congregation referred to remarked, cleanliness is next to godliness.—*Leeds Mercury*.

ACETYLENE.—The report of the Ontario Bureau of Mines contains a large amount of information about the gas acetylene. The report states that the process for the economic production of calcium carbide and acetylene is the most promising discovery that has been made in recent years for the supply of light and fuel, though "experiments" on the enrichment value of the gas, made by Professor Lewes, have convinced him that acetylene will be of no practical use to the gas manufacturer for the enrichment of gas in bulk, other processes being cheaper. Arrangements are already being made to procure electrical energy for the manufacture of calcium carbide from the falls on both sides of the Niagara River from the company which controls the power franchises at the falls, so that it is probable the carbide soon will be manufactured on a commercial scale in Canada, as well as in the United States.

DISCREPANCIES IN COAL PRICES.—A special Lighting Committee of the Liverpool Corporation—the gas in that city being supplied by an independent company—have recently been investigating as to what is done in other towns, and have just issued a printed memorandum, some of the facts stated in which are very surprising. Comparing Liverpool, Glasgow, and Sheffield, they find that while the illuminating power in Liverpool is slightly inferior, the present cost of gas is there 3s. per 1,000 feet, against 2s. 6d. at Glasgow, and on the average of a sliding scale, 2s. 1½d. at Sheffield. This, however, is fully explained when we come to the price of coal. Liverpool actually pays 20s. 7d. per ton, as against 9s. 9d. at Glasgow and 8s. 6d. at Sheffield. Such an immensely higher price for coal producing an inferior gas is inexplicable. A further table of comparisons shows that there is not a Corporation or a company of any magnitude in Great Britain which pays within twenty-three per cent. for its gas coal what Liverpool pays. The metropolitan companies pay barely half. The proximity of Liverpool to the extensive collieries of West Lancashire and North Wales, many of which produce excellent gas coal, adds to the puzzle.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Separating Oils, etc. G. Mitchell. 17,239. September 16.
Improvements in Aluminium Compounds. R. J. Roman. 17,250. Sept. 16.
Improvements in the Electrolytical Decomposition of Alkaline Salts. W. A. Rosenbaum. 17,258. September 17.
Improvements in Manufacture of Tanks. A. C. Moore and J. F. Crease. 17,262. September 17.
Improved Manufacture of Saltpetre. C. G. Millar. 17,376. September 18.
Obtaining Tannin, Cutch, and Dye from Mangrove Bark. W. Clarke. 17,402. September 18.
Purifying Water. J. T. Norman. 17,483. September 19.
Electrolytical Manufacture of Bleaching Fluid. C. Kellner. 17,525. September 19.
Process and Apparatus for Producing Peat Charcoal. O. Rose. 17,558. September 20.
Improvements in Electrolysis. G. Poore. 17,573. September 20.
Purifying Sewage, etc. E. E. Scruby. 17,648. September 21.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

Improvements in or Connected with the Manufacture of Oxygen. H. L. A. Lapointe, 10, Rue Mansart, Paris. Eng. Pat. 13,959. July 22, 1895. (Under International Convention, March 26, 1895.)

The process is a well-known one, consisting in oxidizing and de-oxidizing alkaline manganates with alternate currents of air and steam. The improvements are in the apparatus employed in securing air-tight joints and highly heated retorts capable of withstanding the necessary pressure. A further difficulty, namely, the presence of a certain amount of air in the retorts and connections which when steam is admitted, is carried away with the oxygen generated, thereby diluting the same, is also specially provided for.

The alkaline manganate is prepared by heating to a dull red in a current of hot air a mixture of manganese dioxide and soda, the resulting manganate of soda yields oxygen on treatment with superheated steam returning to its original form as manganese dioxide and soda.

The essential improvements are mechanical ones, for particulars of which it is preferable to consult the specification and the sixteen accompanying drawings.

A New or Improved Process and Apparatus for the Production of Chlorine from Gaseous Hydrochloric Acid. P. R. J. Krause, 174, Moda-Djadassy, Kadi Kieuy, near Constantinople. Eng. Pat. 16,227. August 25, 1894.

The patent is based upon the nitro-hydrochloric process of chlorine manufacture. The plant consists of an ordinary Glover tower with slight modifications, with necessary storage and concentrating apparatus for the acids. The tower is first impregnated with hot sulphuric acid, which is kept at the requisite temperature of between 125° and 130° C by means of dry steam injected into the tower through tuyers situated near the top and the middle. When ready, the HCl gas is introduced at the top, along with the requisite quantity of nitric acid. The latter meeting the hot sulphuric acid is volatilized, and at once acts on the gaseous HCl, forming chlorine, nitrosylchloride, and water, which is absorbed by the sulphuric acid. The acid leaving the tower must not be below the temperature of 125° C, as otherwise traces of nitric acid go into solution and are lost. It must also not exceed 130° C, as if it does, the nitric acid is partially decomposed into products which are difficult to subsequently recover. The amount of sulphuric acid that should be passing through the tower is ascertained by the gravity of the escaping acid, which should not be allowed to fall lower than 90° Tw., but be kept at about 100° Tw. As the acid leaves the tower it passes to a storage tank, whence it is pumped to a concentrating apparatus at the level of the top of the tower, where a nitric acid store tank and measuring apparatus is also situated. One sectional drawing showing the general arrangement of the plant is attached.

Improvements in the Electrolytical Production of Zinc from its Ores and Apparatus therefor. Siemens Bros. and Co., Ltd., 12, Queen Anne's Gate, Westminster (communicated by Messrs. Siemens and Halske, of Berlin). Eng. Pat. 13,434. July 12, 1895.

The chief difficulty that has stood in the way of the technical application of the electrolytical production of zinc, has been the spongy form of the zinc deposited, which is no good for commercial purposes.

It has been found, however, that when the electrolyte is kept constant and rapid circulation the formation of zinc sponge is avoided, the circulation being best effected by means of compressed air, means of partitions near the sides of the cells, and perforated supply pipes at the bottom of the said partitions, the electrolyte made to ascend the sides of the cell, and descend in the middle of the electrodes. The process in outline is as follows:—The ores have been roasted, leached with sulphuric acid, and the solution freed as possible from foreign metals, the latter is introduced into the cell and the air compressor and current generator set to work, where the foregoing circulation of the electrolyte takes place, the zinc being deposited on the cathodes. It is not possible to prescribe any particular speed for the circulation of the electrolyte, as it varies for each case treated. For general purposes, however, it has been found that results are obtained by using a solution of about 14° Tw., containing 5 to 10 grams of sulphuric acid per litre, which is treated with a current of about 50 amperes to the square metre of cathode surface. The cathodes are 1 metre long and 0·7 wide, an air current of 1·3 cubic metre per hour being employed for each cathode. The rate of deposition has also been found to be affected by the conditions under which the sulphuric acid is added. By direct addition the same results, if, however, a neutral solution is previously electrolysed, liberating free sulphuric acid and depositing zinc sponge, an resulting liquor used to leach fresh ore, a solution is obtained which, on subsequent treatment as above described, the zinc is deposited as a fine solid.

Process for Utilising Nitre-cake and other Acid Sulphates. J. D. H. 4,826, Greenway Avenue, Philadelphia, U.S.A. Eng. Pat. 13,316. July 1895.

The object is to utilize the acid sulphate of soda, so familiar as a product from the manufacture of nitric and sulphuric acids. This is done by electrolytically decomposing a solution of salt in a specially constructed cell, so that the soda passes into combination with the sulphate and chlorine gas is evolved. A slate or other kind of material is divided into three compartments by two porous partitions. The outer ones contain leaden negative poles suspended in a solution of acid sulphate. The inner one contains a carbon positive pole in a saturated solution of brine. On the current passing, the salt is decomposed, the sodium passing through the porous partition into the sulphate and forming neutral sulphate. The top of the inner cell is closed, the liberated chlorine collects and is conveyed to an absorbing apparatus through a pipe provided for the purpose. The same process is applicable to other acid sulphates provided the electrolyte in the inner cell contains the same base as the acid salt.

Process for the Recovery of Zinc from Scrap Galvanised Iron and Hard Spelter and other Zinc Alloys. W. S. Rawson, 25, York Westminister, and R. Heathfield, 1, Leadenhall-street, E.C. Eng. Pat. 16,227. October 24, 1894.

The scrap or alloy is treated with a solution of caustic potash of gravity in an iron vessel, the action being promoted by constant motion. For this purpose the scrap is placed in an iron perforated net revolving in the solution, and connected to the + pole of a source of electricity. When the solution attains a gravity of about 1·26, the current is started and the zinc deposited on a cathode, which is preferably round and in motion, so that the zinc is deposited as a cylindrical shell.

Improvements in Recovering Grease from Waste Suds which have been used in Washing Wool, Hair, or other Fibre. A. J. Oxford-street, Kidderminster. Eng. Pat. 15,907. September 25, 1894.

The commercial value of "recovered grease" is greatly diminished owing to the presence of acid used in the recovery. To avoid this the patentee describes a process in which the suds, after being clarified as far as possible by settling, are treated, in a vessel fitted with a mechanical agitator, with common salt. On standing, the grease separates; the latter is run off, and the former treated with caustic and carbonated alkali (of the usual soap-making strength) the proportion of 50 pounds of each to 10 tons of treated suds whole being agitated for about an hour with or without heat. The resulting grease after washing can be sold or made into finished soap.

Another method consists in boiling the suds with agitation, and running into cooling tanks, where the grease separates, and is agitated and completely separated by finishing in centrifugals.

NAPHTHA SPRING ON FIRE.—During a thunderstorm which over Baku on Thursday last week, the lightning struck one of the naphtha springs, which was immediately ignited. The flames extended to the neighbouring springs, five of which were eventually involved. Two workmen were burned to death, and another is missing, three men sustained serious burns.

GAS SUPPLY OF LONDON AND LEEDS.

LONDON.

quality of the gas supplied to the City of London for the week ending Sept. 14th, 1895, was good. According to the report of J. Dibdin, chemist and superintendent gas examiner to the County Council, the tests made at the various testing showed no deficiencies in illuminating power. The following have been prepared from the report, and show the average composition of the gas calculated on the mean test:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles).	Sulphur. Grains in 100 cb. ft.	Ammonia. Grains in 100 cb. ft.	Sulphuretted hydrogen.
		Mean average.	Mean average.	Mean average.	
London and Coke Co.	14	16.48	10.96	0.23	Nil.
Metropolitan Gas	6	16.48	9.51	0.71	Nil.
Edwards' Gas Co.	2	16.35	7.15	0.6	Nil.

Standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than — sulphur and 4 grains of ammonia per 100 cub. ft. of gas, on an average of three days with a pressure of one inch between sunset and sunrise and six-tenths of an inch between midnight and sunset.

LEEDS.

According to the report of Mr. T. Fairley, F.I.C., gas examiner the total proportion of sulphur contained in the Leeds gas for the month ended Sept. 12th, 1895, has averaged 16.44 grains per cubic foot. The following are the results of tests made at the Leeds gas works per 100 cubic feet:—

	Date when Tests were made.		Total Sulphur.	Ammonia.	Carbonic Acid.	
	Aug. 1895.	Sept. 1895.			Weight.	Volume.
Leeds Gas Works	16, 21, 30.	5, 11.	16.82	1.37	48.90	.06
Leeds Gas Works	15, 23, 28.	6, 12.	17.54	1.01	57.05	.07
Leeds Gas Works	14, 24, 29.	4, 10.	11.24	1.51	40.75	.05
Leeds Gas Works	..	..	16.44	1.64	48.90	.06
Leeds Gas Works	..	..	15.35	1.62	48.90	.06

For the month the average illuminating power of the Leeds Gas for Sept. 7, East Parade, the tests being calculated to a uniform consumption of 5 feet per hour, and corrected for variations in temperature to a temperature of 60° Fahr. and a barometric pressure of 30 inches, has been in standard candles (burning 120 grains of gas per hour):—Standard argand, 24 hole, 17.7; and standard 18.3.

Trade Notes.

RE STATISTICS.—The Permanent Nitrate Committee's public circular shows total exports to Europe, September, quintals; loading for Europe 1st October, quintals 5,000,000; imports, September, tons 50,750; deliveries in Europe, September, tons 53,960; visible supply, Europe, 1st October, stocks 362,640.

AL.—It is with much pleasure that we learn of the appointment of Mr. R. A. Young as general manager of Messrs. Foster, Wilson and Lead Works, to fill the place rendered vacant by the death of Mr. J. Leathart. For 10 years Mr. Young was in the works now known as Messrs. James & Co., Ltd., and for 14 years he has held an important position with the firm for which he is now to act as general manager. From a personal acquaintance with Mr. Young we feel sure his appointment will be received with satisfaction by all who know him both in and outside the works.

PULP via THE CANAL.—During last week no fewer than 10 steamers arrived at the Manchester Docks laden with wood pulp, the aggregate weight of about 4,000 tons. The *Flos*, from Sweden, brought 1,300 tons of wood pulp, the *Jason* 712 tons from Gefle, the *Odin* 700 tons of wood pulp from Drammen, 50 tons of wood pulp from Gothenburg, the *Skulda* 700 tons from Skein, and the *Malachite* 670 tons from the same place. The *Gathorne* was berthed on Saturday with a mixed cargo of wood and timber from Gefle, and the *Thursby* discharged 77 tons of boards from Harlingen in the early part of the week. The *Argoon*, *Odin*, *Skulda*, *Amethyst*, *Courier*, and *Starlight* are shortly with further consignments of wood pulp from the

THE BARROW STEEL TRADE.—According to the statement of a Barrow correspondent, it now seems practically certain that the steel mills at Barrow will remain closed for the remainder of this year, in consequence of the wages difficulty.

THE SOAP TRADE IN SYDNEY AND SERVIA.—The Sydney Soap and Candle Company has now been established close on thirty years. They employ 200 hands, and turn out 2,500 tons of soap and 130,000 boxes of candles per annum, besides toilet and soft soap, glycerine, lubricating oils, and bone dust. At their boiling down works they make 50 tons of tallow a week, and their candles are acknowledged to be equal to the best English make. The works are six acres in extent, and they possess altogether an area of 24 acres. The wholesale market price of their candles at present is 5½d. per lb., and of soap from £10. to £16. per ton. In Servia there are ten soap-boiling works, where in ten separate establishments ten masters and as many apprentices are engaged, with separate fires, sheds, and shops in each case, and ten separate families looking to the profits of these ten small concerns for their livelihood.

THE FRENCH SUGAR-BEET CROP.—Under the action of the heat and the dry weather the weight of the beetroot does not make much progress, and in a number of places the leaves are rapidly fading; but in some localities vegetation has not yet stopped, and the leaves are green. There is great inequality in the degree of development of the crop, the weights being in places where they have been dug varying from 6½ tons to 12 tons per acre. The quality is better than last year, and the work easier. Not many factories are working yet, as it is only in exceptional cases that digging can be undertaken, and in a general way the sale of the sugar is retarded by the impossibility of gathering in the beet crop. From the actual results it may be said that the French crop is deficient in weight per acre, but superior to that of last year in quality. However, seeing that digging is delayed, if abundant rains come shortly, the weight of the saccharine matter may be greatly increased.

LAMP ACCIDENTS.—Last week a fire, caused by the explosion of a lighted petroleum lamp, occurred at the house 19, Back Silk-street, Salford, in the occupation of George Pollitt. Information was sent to the chief fire station, but before the arrival of the brigade the flames had been extinguished by a number of neighbours. A great deal of damage was done, all the furniture in the kitchen being destroyed. Fortunately no one was in the room at the time of the explosion, the force of which spurted the burning oil all over the place.—Late last Friday night a policeman saw a man on fire run out of an entry near Rial-street, Hulme, Manchester. The man stated that whilst attending to his duties as nightsoil man in the entry mentioned above he hung his paraffin lamp on an outhouse door. He accidentally knocked against the lamp, causing it to explode, and a quantity of the burning oil went over him, setting his clothes on fire.

UNSATISFACTORY CRUSADE AGAINST SMOKE.—Not long ago the Enfield Urban District Council, deeming chimneys on fire too common, issued a notice informing householders that if they dared to harbour inflammable soot they would in future be prosecuted for every conflagration. Having published this decree, and instructed the police to report all cases, the Council sat down to await results, which so far have not been too satisfactory. First came tidings of a chimney on fire at the Enfield Town Constitutional Club, of which some of the councillors and magistrates are members. This was embarrassing, but justice had to be done, and the Club was fined a shilling. Then came word of a chimney on fire at the Police Station. It was reported by the police with due solemnity, but as they were the only witnesses on whose word a conviction could be obtained, they did not view their responsibility too seriously. There was, it is true, also the testimony of a negro comedian, who saw the fire, and entering the station, demanded the reward for giving information; thus proving himself a comedian beyond all question. The prosecution being thus feeble, the case was dismissed.

ADULTERATED MILK PROSECUTION.—At the Manchester City Police Court, last week, Job Mycock, milk dealer, Fairfield-street, Ancoats, was charged with selling milk which on analysis was found to contain four per cent. of added water, and to be deprived of fat to the extent of ten per cent. On Mycock saying that he sold the milk exactly as he received it from the wholesale dealer, James Cooper, Mitchell-street, Ancoats, a sample was taken of the latter's milk. It was found to contain three per cent. of added water, and to be deprived of 15 per cent. of fat. A summons was accordingly taken out against Cooper, who said he got the milk under a warranty from Wm. Gaskell, farmer, Low Brook Farm, Rainow, near Macclesfield, and sold it as he received it. The farmer was therefore also summoned for giving a false warranty, but when a sample of his milk was taken at London-road Station it was found to be pure. The magistrates fined Cooper 20s. and costs, and the charge against Mycock was withdrawn.—Mr. Gardner, on behalf of Cooper, gave notice of appeal, and the case against Mr. Gaskell was adjourned for a month, pending the hearing of the appeal.

COPPER SOLUTION FOR VINES.—It appears from new reports received by Mons. Gadaud, the French Minister of Agriculture, that the ravages caused this year by black-rot in many parts of the south-west, in all Armagnac, for example, have been larger in extent than in the preceding year. Some of the vines have fortunately escaped, and these exceptions prove that the disease can be prevented by the use of copper solutions. In these vineyards three dressings, carefully and opportunely made, have sufficed this year for saving a crop almost lost. It is true that the vines upon which the treatment acted have been regularly treated in preceding years, showing that success followed perseverance and continuity in the effort. But it does not remain less certain that such facts merit being brought to the knowledge of viticulturists whose confidence in the treatment by the aid of preparations of salts of copper is found to be wrongly shaken on account of the intensity of this year's invasion. It is, on the contrary, more than ever necessary that viticulturists should have recourse to the treatments as well as the rest of the general measures shown in recent ministerial instruction addressed to the prefects and to the departmental professors of agriculture.

Market Reports.

TAR AND AMMONIA PRODUCTS.

There is more doing in 90's benzol at 1s. 1½d. and 50/90's at 1s. 0½d., the former being in good demand for enrichment purposes. Carbolic acids are much the same, with a slightly increased firmness in 60% crude, which now stands at 1s. 7d. Crystals, 40%, are still quoted 5¼d. Crude naphtha is unaltered at 5d., but solvent is scarce and has advanced to 1s. 2d. Creosote without change. Anthracene steady at 11¼d. for 30% A, and 9d. for B. Pitch keeps firm at 38s. to 38s. 6d., f.o.b. East Coast.

With the exception of a slightly improved demand at the end of last month, sulphate of ammonia altered very little. Prices continue low and variable. Beckton value is £9., Liverpool £8. 18s. 9d., London outside makes £8. 16s. 3d., Hull £8. 15s., and Leith £8. 15s. to £8. 12s. 6d. Nitrate is quiet at 7s. 9d. to 8s. 3d. per cwt.

REPORT ON MANURE MATERIAL.

There has been a moderate amount of business doing, and values of phosphates are about maintained, but nitrogenous material is still neglected, and prices are again somewhat easier. Further business has been done in 75/80% Florida rock, 1896 steamer shipment, at about the parity of 6½d. per unit, c.i.f. to good United Kingdom ports, and there is still inquiry, but for 1895-96 cotton season shipment there does not appear to be much demand, although some concession in price would be made in this position. Business is doing in South Carolina River rock, for next year, at about 5½d. per unit, but for near shipment 5¼d. would probably do. Pence River rock and Algerian are unchanged. Several cargoes of River Plate bones have recently changed hands at £4. 5s. per ton for those of handy size, and at £4. 2s. 6d. for larger sizes. Crushed Kurrachee bones have been sold at £4. 2s. 6d. per ton for late autumn shipment, and £4. 1s. 3d. is nearest value of shipment near at hand. Bombay bone meal, for shipment, offers at £4. 2s. 6d. per ton, and business has been done thereat. Nitrate of soda is quiet in all positions; spot value of kne quality is 7s. 10½d. per cwt., and the value of October-November shipments, ordinary quality, is about the same. Spring delivery is quoted 8s. per cwt.

MISCELLANEOUS CHEMICAL MARKET.

Business generally during the past week has been fairly satisfactory. There are no material changes in prices to report. Bleaching powder continues to sell freely at £7. per ton for softwood, on rails, and £7. 5s. hardwoods, f.o.b. Caustic soda does not find a very ready sale, and prices have a tendency in buyers' favour—70% is quoted £7. 7s. 6d., rails, works, and 60% £6. 7s. 6d. Soda crystals quiet at 37s. 6d. per ton, bags, and 40s. casks. Soda ash is unchanged. Saltcake continues steady, and is worth to-day 22s. 6d. at makers' works. Chlorate of potash dull at 4½d. per lb.; chlorate of soda firm and scarce at 6½d. per lb.—makers sold out until November. Sulphur quiet—recovered we quote: lump £3. 12s. 6d., roll £5. 10. Nitrate of soda is only in moderate request, but quotations are without change, and stand at £7. 15s. to £8. 2s. 6d., according to quality, etc. Ammonia salts

rather scarce. Carbonate remains unchanged, but muriate is £23. to £24. per ton. Sulphocyanides meet with better demand prices are steady—we quote ammonia 7d. per lb., barium 5d. per lb., sodium 5¼d. per lb. Borax dull and difficult of sale. White potash arsenic scarce and strong; for spot delivery £15. Garston is at Acetates of lime continue quiet; for prompt delivery £5. 10. £5. 12s. 6d. can be obtained for brown, and £9. for grey. Prussiate of potash can be had at 7½d. per lb. Carbolic acids without change in price, and business passing is not large.

LIVERPOOL MINERAL MARKET.

This week our market continues firm, with an upward tendency. Manganese: Arrivals have been somewhat larger, but they have gone into direct consumption on arrival contracts, whilst stocks, which formerly very small, have been freely drawn upon; advanced are therefore sought for. Ground manganese: This continues in demand at £6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore is in fair demand at somewhat firmer prices. Chrome ore: Arrivals have somewhat improved; the demand is firm and prices are firm. Bauxite is brisk at 20s. per ton for first quality, 16s. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. French chalk: Arrivals continue slow, and have been rather freely drawn upon; the demand for prompt forward delivery being strong, prices are firm at 70s. to 75s., 90s., and 100s. to 110s. per ton for "Angel White" brands, according to quality. Plumbago: Arrivals have been very slow, and have gone into direct consumption; stocks are, therefore, nil, and prompt forward delivery are firm at £6., £8., and £10. per ton, according to quality. Wolfram and scheelite are steady, with the probability of a rise in price. Arsenic is steady, bringing from £16. to £16. 10s. per ton. Fuller's earth is in fair demand: lump 50s., and powder to 80s. per ton. Umbers and ochres continue in brisk demand at last prices. Carbonate of barytes is rather easier at unaltered prices. Sulphate of barytes continue scarce, with the probability of a price.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, dull: Scotch warrants at 47s. 5½d.; Middlesbrough, 38s. 6½d. cash, and hematite, 40s. Copper, steady: Chili bars, G. O. B.'s and G. M. B.'s, at £46. 18s. 9d. to £47. 3s. 9d. cash, and £47. 6s. 3d. to £47. 10s. three months. Tin, firm: Straits closed at £65. 17s. 6d. to £66. 10s. cash, and £66. 5s. to £66. 15s. three months; Australian, £67. 7s. English ingots, £68. 10s. to £69. Lead, firm: Spanish, English, £11. 2s. 6d.; Silesian spelter, ordinary, £15. 7s. 6d. 1s. 1½d. Antimony, £31. 5s. Quicksilver: first hands, £7. 10s. hands, £6. 19s. Copper shares, firm: Cape, 2½ to 2½; C. 2½ to 2½; Libiola, 3½ to 3½; Mason and Barry, 2½ to 3½; Tinto, 20½ to 20½; Tharsis, 5 to 5½.

GLASGOW, WEDNESDAY.—Market firm, with fair business. Scotch done at 47s. 5½d., 47s. 6d., 47s. 4½d., and 47s. 6d. cash at 47s. 8d., 47s. 7d., and 47s. 8d. one month; closing with last at 47s. 5½d. cash, sellers ask 47s. 6d. Cleveland done at 38s. 10s. 38s. 8½d. one month; closing with buyers at 38s. 6½d. cash, ask 38s. 7½d. Cumberland hematite done at 49s. 4d. cash, 49s. 8d., 49s. 7d., and 49s. 7½d. one month; closing with last at 49s. 4d. cash, sellers ask 49s. 5d. Middlesbrough hematite closing buyers at 46s. 3d. cash, sellers ask 46s. 5d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.—OILS.—Palm oil continues firm, but there is less doing, standing at £21. 10s. per ton transit. There has been a moderate business doing in olive at steady prices. There has been an easing in the values of linseed, which now stands steady at 21s. 10s. 2 cwt. for Liverpool makes in export casks. There is no change in cottonseed as far as Liverpool refined is concerned, but it is lower and offering at 17s. 6d. to 17s. 9d. per cwt. Castor very steady. There is a better inquiry for good seconds. Calcutta the quotation still remains at 2½d. First pressure French at 2½d. to 2½d. per lb. Tallow is firmer, but prices as yet are not. Resin is steady, and fairly active all round at good prices. Sturpentine are back again to 20s. 9d. per cwt., but in fair demand steady thereat. Petroleum unchanged. American 6d. to 7½d. Russian refined 5½d. to 6d. per gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best,

ire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 50s., and common, 18s.; Irish, Devonshire, 40s. to 60s., J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead, Venetian red, £6. to £10. Cobalt: Prepared oxide, black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, Oxide of iron: Common, £7.; medium, £10.; finest, £20. 6d., £22. 10s. to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

ards the middle of last week sulphate of ammonia became depressed, and as low as £8. 12s. 6d. prompt Leith was taken instances certainly—very likely three or even four. Immediately, there was reaction, and at the close of the week no seller took at less than £8. 13s. 9d., while a number of them held for which price in a few cases was actually got. The situation remained the same up to to-day. With regard to dealing for forward delivery continues entire disagreement of view as between the two sections, business done, the makers still pinning their faith to a substantial recovery before very long. The market in mineral oils and has resumed normal quietness, the chance of a strike or locking now virtually passed for the time. All these products are in demand, and fairly well called for at the old prices. General prices are all a little livelier, bleaching powder and soda crystals are. Still there are no advances in values of any note, the old however, being all well maintained.

prices current are:—Soda crystals, 37s. 6d. nett, Tyne; 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett; caustic soda, white, 76° £9. 5s., 70/72° £7. 15s., 60/62° and cream 60/62° £6. 10s., all nett, Liverpool; bleaching £6. 5s. to £7. nett, Tyne; saltcake, 22s. 6d.; borax, English £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; nitrate of potash, 4½d. nett, for Scotch and English deliveries (for 1½d. nett, f.o.b. Glasgow); bichromate of soda, 3¼d. nett, for English deliveries (for export, 3½d. nett, f.o.b. Glasgow); nitrate of potash, 4½d. less 5%, Liverpool; nitrate of soda, 7s. 9d.; sulphate of ammonia, £8. 13s. 9d. to £8. 15s. prompt, f.o.b. ammoniac, first and second white, £39. and £37. nett, any phate of copper, £16. 12s. 6d., less 5%, Liverpool; paraffin red, 2½d.; and soft, 1½d. to 2½d. per lb.; paraffin wax 120° med, 2½d. to 2¼d.; paraffin spirit (naphtha), 8d. per gallon; oil (burning), No. 1 6½d., and crystal 6¾d., at works, for buyers (English sales about 1d. lower); ditto (lubricating) 86s. to £5.; 88s. 5s. to £5. 5s., and 890/895° £5. 10s. to £6., week's imports of sugar at Greenock were 7,948 bags beet

TYNE CHEMICAL REPORT.

TUESDAY.

icals are quiet, and there is no change to report in prices. are fairly low, and shipments generally show an improvement. quotations are as under:—

ing powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton; astic soda, 76/77°, £9. 10s. per ton, nett; do., 70°, £7. 15s. nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. ton, nett; do., 52%, £5. per ton, nett; hyposulphite of cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; ° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. , nett; soda crystals, casks, £2. 5s. per ton, ight; do., 2 cwt. bags, £2. 5s. per ton, nett weight; of potash, 5d. per lb., less 6%; pearl hardening, ton, nett; pure white sulphate of alumina, £4. 2s. 6d. nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, per ton, nett; carbonate of alumina, £28. 15s. per ton uminate of soda, £33. 15s. per ton, nett; in 5 ton lots, per ton, nett.

—South Durham salt rather steadier at 9s. 6d. to 9s. 9d. o.b. Tees.

S.—The market is still easy, though there is a rather better tonnage at the moment, and collieries will have fuller work. prices are:—Best Northumbrian steam, 8s. 9d. to 8s. 10½d. second qualities, 7s. 9d. per ton; Small steam, 3s. 6d. ton; bunker coals, unscreened, 6s. to 7s. per ton; house, dull, 10s. per ton; coke, firmer, 13s. 6d. to 14s. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—Nothing much passing of any importance. The closing few days of the past month have been characterised by a certain amount of uncertainty as to the prospective prices to rule this present month. The import of linseed has been 6,705 qrs., principally from St. Petersburg. Linseed oil has been rather easier, closing steady at 19s. 7½d. naked spot; October-December, 19s.; and January-April or May-August, 18s. 7½d.; boiled and refined from £1. to £2. per ton extra. Export during the week has been 1,080 cwt. There have been no arrivals of cottonseed during the past week, and refined cotton oil remains only quiet at 15s. 10½d. naked spot, also the same quotations in all positions up to April next. Casks 17s. 6d. and ordinary barrels 27s. 6d. per ton extra. The export of refined oil has been 1,980 cwt. Rape oil remains still unchanged. Castor oil steady, at 2¼d. per lb. for first pressure. Cod oil from £17. to £21. per ton. Olive oil from £33. per tun upwards. Turpentine, 21s. per cwt. Pale mineral oils continue in good demand: Bloomless 885° quoted from £7. 10s. per ton. Soft soap from 14s. per cwt. Wool oil from £13. 10s. per ton. Brown wool grease, £8. per ton.

CAKES.—Prices firm. Linseed cakes: 95% pure, £6. per ton; Russians, £5. 12s. 6d. to £5. 17s. 6d. Oil cakes, £5. 2s. 6d. per ton. Cotton cakes: Best makes, £4. to £4. 2s. 6d. per ton; seconds, £3. 15s. Rape cakes unchanged.

PAINTS.—Good business still passing in these manufactures, owing no doubt to the continued open weather. Prices are: Black, yellow, yellow ochre, venetian red, oxide of iron, and blue paints in oil from £11. per ton; ready mixed in bulk, 17s.; packed in tins of 1, 2, 4, and 7lb., 24s. 6d. per cwt. Red and white leads unchanged. Dry colours unchanged. Paint remover from 25s. to 30s. per cwt. Imperial black varnish, £5. 10s. per ton in barrels free. Oak varnish from 5s. 6d. per gallon.

New Companies.

New Chemical Works, Ltd.—CAPITAL £3,000., in 2,000 £1. shares and 20,000 1s. shares. This company has been formed to acquire certain chemical works, the situation of which does not transpire. The registered office is 43, Temple-street, Birmingham.

Kennedy and Co, Ltd.—CAPITAL £6,000., in shares of £10. each. —This company has been formed to carry on in Ireland and elsewhere the business of oil cake and feeding stuff merchants. The subscribers to the memorandum of association are:—J. H. Haslett, North Belfast, merchant; J. H. Lytle, Victoria-street, Belfast, merchant; J. S. Kennedy, Dundela, Strandtown, merchant; G. McIlldowie, Lindsprne, Strandtown, solicitor; M. H. Kennedy, Dundela, Strandtown, married woman; F. Hunter, 3, Alfred-street, Belfast, merchant; R. McNiell, 3, Toronto, Belfast, accountant.

Bristol Manufacturers, Ltd.—CAPITAL £20,000., in 100 shares of £100. and 200 of £50. each. This company has been formed to carry on the business of gelatine, glue, tallow, manure, etc., manufacturers and merchants. The subscribers to the memorandum of association are:—W. H. Davis, Bedminster, Bristol, tanner; H. Densham, Redcross-street, Bristol, tanner; P. N. Evans, Bedminster, Bristol, tanner; E. D. Evans, Bedminster, Bristol, tanner; H. B. Dutton, Valton, Somerset, tanner; R. Vicary, Newton Abbot, Devon, tanner; C. G. Vicary, Newton Abbot, Devon, tanner.

Bristol Oil Storage Co, Ltd.—CAPITAL £20,000., in shares of £1. each.—This company has been formed to carry on the business of oil storers and warehousemen, etc. The subscribers to the memorandum of association are:—W. E. Gardner, St. John's-road, Bedminster, Bristol, merchant; S. N. Price, Cotham, Bristol, gentleman; J. Gerrish, 3, Broad-street, Bristol, auctioneer; H. Hughes, King-street, Queen-square, Bristol, manufacturer; W. Simpson, Manhattan Storage Wharf, E., merchant; J. Edkins, 22, Oxford-road, N.W., wharf manager; G. Mordaunt, 1, St. Helen's-place, E.C., produce broker.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

C. H. L. VAN DER LELY and A. H. SIMPSON, drug and gum merchants, New London-street, E.C., under the style of Van der Lely and Simpson.

A. H. KNIGHT and S. G. RAWSON, Liverpool, consulting chemists and assayers, under the style of Knight and Rawson.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

BECK, BENJAMIN, Rotherham, drysalter.

Stearine — Antwerp, 4 cks. 50 bgs. Wilson, Sons, & Co., Ltd.	
Tartar — Bordeaux, 4 cks. Rawson & Robinson	
Tartaric Acid — Rotterdam, 2 cks. Hutchinson & Son	
Turpentine — Bordeaux, 10 brls. Rawson & Robinson	
Ultramarine — Rotterdam, 4 cks. W. & C. L. Ringrose	
White Lead — Ghent, 16 brls. Wilson, Sons, & Co., Ltd.	
Antwerp, 24 cks. Bailey & Leatham	
Rotterdam, 78 W. & C. L. Ringrose	
" 29 Wilson, Sons, & Co., Ltd.	
Wood Pulp — Abo, 99 brls. J. Good & Sons	
" 21	
Zinc White — Rotterdam, 20 cks. W. & C. L. Ringrose	

GLASGOW.

Week ending September 26th.

Acetic Acid — Ghent, 16 cks. 29 jars	
Acid — Rotterdam, 1 btl. J. Rankine & Son	
Albumen — Hamburg, 3 cks	
Asbestos — Montreal, 1,121 bgs.	
Barium Sulphate — Antwerp, 20 bgs.	
Barytes — Rotterdam, 23 cks.	
Castor Oil — Marseilles, 20 cs. 176 brls.	
Chemicals (otherwise undescribed) Rotterdam, 2 cs. J. Rankine & Son	
Hamburg, 1	
Chrome Alum — Rotterdam, 15 brls. J. Rankine & Son	

Cobalt Ore — New Caledonia, 1,200 t. Nickel Co.	
Colours — Rotterdam, 17 brls. 12 bgs. J. Rankine & Son	
" 38 pkgs.	
Hamburg, 2 cs. 5 cks.	
Cream of Tartar — Marseilles, 5 cks.	
Barcelona, 5	
Dyestuffs — Alizarine Rotterdam, 33 brls. 2 bgs. J. Rankine & Son	
" 93 pkgs.	
Bordeaux, 92 cks.	
Marseilles, 5 cks.	
Myrabolams Bombay, 902 bgs.	
Farina — Hamburg, 100 bls.	
Lamp Black — Gothenburg, 15 cs.	
Manure — Nantes, 126 bgs.	
Ochre — Marseilles, 33 cks.	
Paint — Marseilles, 10 cs.	
Phosphate — Antwerp, 200 t.	
Potashes — Montreal, 25 brls.	
Saltpetre — Hamburg, 2 cks.	
Soap — Marseilles, 1 bx.	
Soda — Rotterdam, 20 brls. J. Rankine & Son	
Stearine — Amsterdam, 62 bgs.	
Tallow — Bordeaux, 1 bhd.	
Tar — Archangel, 1,878 brls. Gourcock Ropework Co.	
Tartar — Bordeaux, 45 cks. 10 kgs.	
Treacle — Boston, 400 brls.	
Ultramarine — Rotterdam, 2 cs. J. Rankine & Son	

White Lead — Rotterdam, 48 cks.	
" 37 J. Rankine & Son	
Wood Pulp — Christiania, 440 bls.	
Zinc Oxide — Antwerp, 50 cks.	
Zinc White — Rotterdam, 10 cks. J. Rankine & Son	

TYNE.

Week ending September 21st.

Asbestos — Hamburg, 1 crt. 1 bl. Tyne S. S. Co.	
Barytes — Rotterdam, 10 bgs. Tyne S. S. Co.	
Antwerp, 124	
Carbon Black — New York, 100 brls. Furness, Withy, & Co.	
Colours — Ghent, 2 brls. Tyne S. S. Co.	
Limestone — Antwerp, 4 crts. Tyne S. S. Co.	
Paint — Hamburg, 8 dms. Tyne S. S. Co.	
Plumbago — Antwerp, 11 bgs. Tyne S. S. Co.	
Rosin — New York, 1,500 brls. Furness, Withy, & Co.	
Saltpetre — Hamburg, 20 cks. Tyne S. S. Co.	
Soap — Rotterdam, 4 cs. Tyne S. S. Co.	
Starch — Rotterdam, 114 cs. 3 crts. Tyne S. S. Co.	
Varnish — New York, 7 brls. Furness, Withy, & Co.	
Wood Pulp — Porsgrund, 300 bls.	

GOOLE.

Week ending September 18th.

Acetic Acid — Rotterdam, 2 cs.	
Barytes — Rotterdam, 12 cks.	
Antwerp, 200 bgs.	
Colours — Hamburg, 41 cks. 5 cs.	

Ghent, 3 kgs. 2	
Dyestuffs — Alizarine Rotterdam, 27 brls.	
Dyestuffs (otherwise undescribed) Rotterdam, 11 cks. 2 cs.	
Boulogne, 70	
Farina — Hamburg, 140 bgs.	
Delfsdyhl, 600	
Glucose — Hamburg, 133 cks.	
Potash — Rotterdam, 8 dms.	
Calais, 11 cks. 2 cs.	
Dunkirk, 20	
Pyrites — Huelva, 1,220 L.	
Saltpetre — Hamburg, 3 cks.	
Starch — Rotterdam, 24 cs.	
Sulphur Ore — Huelva, 997 t.	
Waste Salt — Hamburg, 140 t. 207 cks.	
Wood Pulp — Drammen, 1,250 bls.	
Hamburg, 260	

GRIMSBY.

Week ending September 21st.

Albumen — Antwerp, 2 cks.	
Hamburg, 10 cs.	
Aniline Dyes — Hamburg, 29 pkgs.	
Antwerp, 8	
24 cs. 6 dms.	
Caoutchouc — Rotterdam, 1 cs.	
Hamburg, 3	
Antwerp, 1	
Chemicals (otherwise undescribed) Hamburg, 17 cks.	
Colours — Hamburg, 10 cks. 7 cs. 30 pkgs.	
Dyestuffs — Extracts Dieppe, 25 cks.	
Farina — Hamburg, 105 bgs. 1 ck.	
Starch — Antwerp, 60 cs.	
Wood Pulp — Ronneby, 2,510 bls.	
Gothenburg, 63	

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.**LONDON.**

Week ending September 25th.

Acids — New York, 1 ck. £40	
Natal, 20 cs. 37	
B. Ayres, 7 pkgs. 16	
Alkali — E. London, 1 t. 4 c. £31	
Melbourne, 9 27	
Algoa Bay, 1 18	
Ammonia — Cadiz, 9 drs. £11	
Ammonium Carbonate — New York, 30 t. 4 c. £310	
Dunkirk, 1 5 41	
Paris, 10 brls. 55	
Sydney, 25 cs. 28	
Cologne, 6 8 105	
Rouen, 6 11 105	
Ammonium Chloride — Marseilles, 6 c. £10	
Bourgas, 1 t. 5 46	
Cologne, 1 34	
Ammonium Sulphate — Samarang, 250 t. £2,750	
Cologne, 240 9 c. 2,240	
Arsenic — Wellington, 3 t. £48	
Napier, 10 160	

Bisulphite of Lime — Calcutta, 3 t. 4 c. £62	
Borax — Santos, 12 c. £13	
Sydney, 1 t. 24	
Malta, 1 23	
Townsville, 10 20	
Carbonic Acid Gas — Bombay, 15 cs. £34	
Jersey, 57 cyldrs. 21	
Caustic Potash — Wellington, 1 t. 5 c. £26	
Caustic Soda — Fremantle, 3 c. £10	
Cape Town, 1 6	
Delagoa Bay, 16 26	
Dunedin, 10 12	
Townsville, 11 22	
Melbourne, t. 1 13 32	
Calcutta, 1 9 8	
Levuka, 1 20	
Sydney, 13 10	
Pl. Elizabeth, 2 3 48	
Auckland, 10 12 81	
Napier, 18 43	
Algoa Bay, 7 7 107	
E. London, 7 7 10	
Brisbane, 12 3 90	
Chemicals (otherwise undescribed) Auckland, 4 cks. 15 kgs. t. £60	

Oporto, 5 11	
Santos, 33 cs. 24	
Calcutta, 8 c. 13	
Suva Fiji, 18 drs. 14 107	
Cape Town, 13 c. 26 62	
Invercargill, 15 1 12	
Bombay, 7 15 75	
Gothenburg, 1 t. 11 20	
Philadelphia, 4 17 75	
Citric Acid — Fremantle, 2 c. £15	
Hamburg, 5 38	
Valparaiso, 2 kgs. 13	
Cape Town, 5 cks. 31	
Dunedin, 1 cs. 11	
Coal Products — Carbolic Acid Rotterdam, 48 cks. £170	
Antwerp, 14 pkgs. 19	
Hamburg, 8 23	
Creosote Dieppe, 23,500 galls. £123	
Creosote Oil New York, 500 cks. £215	
Pitch Antwerp, 405 t. £737	
Calcutta, 25 brls. 15	
Alexandria, 50 11	
New York, 500 bgs. 300 cks. 364	
Boston, 450 brls. 300 562	
St. Petersburg, 310 570	

Tar Selzaete, 25,000 galls.	
Calicut, 20 brls.	
Tellicherry, 20	
Boston, 300 cks.	
St. Petersburg, 1,650	
Fiume, 2 runs.	
Coal Products (otherwise undescribed) Melbourne, 60 brls. 3 crts.	
Copper Sulphate — Salonica, 1 t.	
Sevilla, 1	
Bourgas, 1 3 c.	
Galatz, 4 10	
Sydney, 1	
Boston, 20	
Rio de Janeiro, 19	
Copperas — Sydney, 5 t. 17 c.	
Larache, 8	
Cream of Tartar — Fremantle, 5 c.	
Invercargill, 10	
Dunedin, 3 kgs. 10	
Rockhampton, 5 t.	
Corinto, 12 cks.	
Melbourne, 2	
St. John's, N.H'd., 3	
Townsville, 1	
Auckland, 2 21 10	
Wellington, 2 10 2	
Sydney, 2 20 2	

ants—		
145 drs.	£112	
36 6 cks.	45	
1 t. 18 c.	05	
20 cks.	100	
18 56		
26 60		
80 300		
12 31		
256 pks.	39	215
4 18		
55 drs. 180 cks. 18 cs. 169		
135 t.	£1,350	
4 cs.	£17	
2 pks.	11	
19 t. 18 c.	£160	
4 104		
2 10 30		
95 295		
250 900		
cid—		
10 cs.	£40	
15 carboys	22	
rus—		
1 c.	£10	
9 10 cs. 199		
2 22		
cid—		
3 c.	£15	
4 c.	£6	
19 45		
10 cs. 19 176		
Salts—		
3 t.	£365	
m Bicarbonate—		
10 c.	£14	
1 t. 10 41		
m Chlorate—		
10 c.	£20	
10 21		
m Cyanide—		
12 t. 2 c.	£1,694	
2 cks.	25	
1 cs. 16		
3 75		
Bay, 50 350		
m Prussiate—		
10 c.	£550	
ce—		
155 t.	£271	
250 1 c.		
te—		
7 t. 14 c.	£183	
2 4 52		
1 17 39		
2 9 53		
3 5 74		
2 5 52		
1 23		
1 24		
18 20		
Dip—		
44 t. 10 c.	£920	
7 10 270		
22 19 781		
4 cks. 30 drs. 27		
3 10 140		
lon,		
13 c.	£15	
1 t. 1 30		
1 6		
11 14		
5 12 26		
sh—		
19 c.	£72	
ystals—		
2 t. 5 c.	£5	
6 12 14		
Acetate—		
1 t. 1 c.	£15	
Arsenate—		
1 t.	£11	
Bicarbonate—		
3 t.	£21	
1 8		
1 1 c.	8	
3 20		
2 1 7		
1 7		
Bilicate—		
10 c.	£51	
Sulphate—		
150 t.	£150	
1 16 c.	5	
um Carbonate—		
6 c.	£10	

Strontium Nitrate—		
New York, 3 t. 2 c.	£74	
Sulphur—		
Algoa Bay, 1 t. 2 c.	£12	
Cape Town, 8 19	89	
Sulphuric Acid—		
Algoa Bay, 1 t. 10 c.	95 cs. £85	
Bombay, 4 12		
Madras, 15 11		
Aden, 10 13		
Singapore, 1 5 12		
Natal, 2 17 30		
Tartaric Acid—		
Napier, 4 c.	£20	
Brisbane, 10 50		
Hamburg, 10 54		
Melbourne, 3 t. 15 380		
Sydney, 1 5 129		
Auckland, 7 kgs. 33		

LIVERPOOL.

Week ending September 25th.

Acetic Acid—		
Lisbon, 2 t. 10 c.	£21	
Albumen—		
New York, 2 t. 2 c.	£196	
Boston, 8 19 3 q.	391	
Alkali—		
Pernambuco, 3 cks.		
Alum—		
Aleppo, 2 t. 9 c. 2 q.	£11	
Montreal, 3 12 2 20		
St. John's, Nfld., 1 8 6		
Rangoon, 3 12 16		
Alexandretta, 2 10 12		
Boston, 14 5 72		
Beyrout, 7 35		
Varna, 3 15 2 17		
Aluminous Cake—		
Calcutta, 20 t. 5 c. 3 q.	£51	
Ammonium Carbonate—		
Genoa, 1 t.	£34	
Marseilles, 8 c.	13	
Stockholm, 1 10 55		
Ammonium Chloride—		
Malta, 9 c.	£15	
Bourgas, 2 t.	50	
Leghorn, 2 cks.	19	
Beyrout, 1 7 49		
Constantinople, 1 2 2 q.	43	
Gothenburg, 14 10		
Smyrna, 1 2 40		
Ibrail, 3 5		
Salonica, 2 2 75		
Mexico City, 5 4		
Ammonium Sulphate—		
Philadelphia, 10 t. 2 c. 3 q.	£99	
Gd. Canary, 32 250		
Bordeaux, 20 10 1 220		
Las Palmas, 19 184		
Genoa, 75 16 720		
Boston, 50 4 476		
Valencia, 52 15 1 500		
Barcelona, 20 10 3 200		
Antimony—		
Bombay, 2 cks.		
Bleaching Powder—		
Alexandria, 3 cks.		
Baltimore, 300		
Boston, 572		
Calcutta, 125 cs.		
Fiume, 21		
Genoa, 77		
Havana, 2 44 brls.		
Leghorn, 15		
Messina, 15		
Montreal, 30 10		
Naples, 6		
Newport News, 220 10 brs.		
New York, 312 148		
Norrkoping, 96		
Paris, 48		
Passages, 15		
Patras, 4		
Philadelphia, 111		
Rio de Janeiro, 10		
Rouen, 94		
San Francisco, 50		
Tampico, 15		
Bone Waste—		
Rouen, 5 t. 10 c.	£40	
Boric Acid—		
Yokohama, 8 t.	£228	
Borax—		
Paris, 10 c.	£28	
B. Ayres, 5 t.	100	
Ghent, 10 11 2 q.	212	
Christiania, 1 8 48		
Rotterdam, 2 3 3 44		
Piræus, 3 5		

Hobson's Bay, 11 11		
Sydney, 8 15 182		
Antwerp, 12 6 247		
Hamburg, 2 4 1 54		
Montreal, 7 129		
Galatz, 5 5		
Yokohama, 3 8 2 70		
Calcium—		
New York, 10 t. 1 c.	£21	
Carbolic Acid—		
Hiogo, 6 t. 10 c.	£345	
New York, 3 cks.	3 cs. 115	
Rouen, 5 t.	2 q. 259	
Baltimore, 1 10 c.	98	
Calcutta, 1 6 12		
Hamburg, 11 19 607		
Yokohama, 1 14 2 82		
Castor Oil—		
Panama, 100 cs.		
Caustic Potash—		
New York, 17 t. 17 c.	£449	
Newport News, 4 18 2 q.	145	
Iquitos, 1 cs.	108.	
Caustic Soda—		
Adelaide, 116 dms.		
Algiers, 17		
Algoa Bay, 8		
Amsterdam, 20		
Baltimore, 180 30 brls.		
Barcelona, 254 94 pkgs.		
Bilbao, 260		
Bombay, 75		
Boston, 200 100 30 kgs.		
B. Ayres, 10		
Cartagena, Sp., 10		
Dunedin, 6		
E. London, 20		
Fiume, 28		
Galatz, 91		
Hamburg, 80		
Havana, 140		
Hiogo, 100		
Hong Kong, 35		
Ibrail, 17		
Leghorn, 98		
Malaga, 202 5 cks.		
Milwaukee, 200		
Montreal, 35 13 pkgs.		
Naples, 44		
N. Orleans, 100		
Newport News, 1,550 dms. 30 brls. 16 cs. 50 brs.		
New York, 920 100 brls.		
Penang, 8		
Pernambuco, 230		
Puerto Cabello, 15		
Quebec, 35		
Rotterdam, 26 53 pkgs.		
Rouen, 46		
Samarang, 40		
San Sebastian, 50		
Santander, 20 15		
Santos, 70		
Seville, 589		
Smyrna, 10		
Tampico, 700		
Trieste, 15		
Venice, 116		
Vera Cruz, 200		
Zanzibar, 1,504 brs.		
Chemicals (otherwise undescribed)		
Hiogo, 1 t.	£54	
New York, 6 7 c.	212	
Boston, 3 2 2 q.	250	
Bombay, 1 16 70		
Alexandria, 10 18		
Treviso, 4 7		
Philadelphia, 13 7 438		
Galatz, 1 3 5		
Christiania, 1 10 53		
Hamburg, 3 5 109		
Genoa, 2 14 94		
Stockholm, 7 78		
China Clay—		
Barcelona, 10 t.		
Bombay, 10		
Boston, 369		
Calcutta, 21 5 c.		
Montreal, 345		
New York, 9		
Rio de Janeiro, 14 30 cks.		
St. Nazaire, 100 brs.		
Chloride of Lime—		
Newport News, 5 t. 7 c. 1 q.	£100	
Pernambuco, 9 6		
Chloroform—		
Tampico, 1 cs.		
Citric Acid—		
Vera Cruz, 8 c.	£47	
Coal Products—		
Aniline Oil		
Boston, 10 dms.		
Fiume, 10		
Philadelphia, 5		

Aniline Salts		
Barcelona, 15 cks.		
Boston, 10 16 cs.		
Genoa, 10		
New York, 18		
Venice, 6		
Naphthol Colours		
New York, 35 cks.		
Pitch		
Rouen, 2 cks.		
Tar		
Philadelphia, 100 brls.		
Sierra Leone, 20		
Tar Salts		
New York, 1 t.	£35	
Copperas—		
Sydney, 16 c. 2 q.	£2	
Copper Sulphate—		
Dunkirk, 5 t. 6 c. 3 q.	£87	
Adelaide, 5 81		
Paris, 5 2 75		
Constantinople, 3 47		
Catania, 4 18 80		
Montreal, 19 16		
Palermo, 1 16 3 27		
Pernambuco, 10 9		
M. Video, 1 4 1 18		
Rouen, 14 1 3 227		
Valparaiso, 5 81		
Marseilles, 15 1 2 241		
Boston, 2 10 1 45		
Tampico, 36 11 567		
Rouen, 19 4 2 304		
Dried Blood—		
Gd. Canary, 1 t.	£8	
Las Palmas, 19 10 c. 1 q.	160	
Rouen, 98 6 783		
Farina—		
Pernambuco, 20 cs.		
Gelatine—		
New York, 150 cs.		
Glue—		
Barcelona, 18 cks.		
Corunna, 10 brs.		
New York, 20 hf. cks.		
Puerto Cabello, 1		
Shanghai, 12 cs.		
Guanos—		
Malaga, 79 t. 4 c.	£496	
Barcelona, 98 8 958		
Gypsum—		
New York, 36 t. 12 c.	£117	
Iron Acetate—		
Pernambuco, 1 t. 15 c.	£19	
Iron Nitrate—		
Pernambuco, 1 t. 19 c.	£23	
Lamp Black—		
Salaverry, 2 cks.		
Lead Acetate—		
Bombay, 9 t.	£153	
Lime—		
Lagos, 5 cks.	£6	
Opobo, 5 cks.		
Limestone—		
New York, 14 c.		
Magnesia—		
Alicante, 75 cs.		
Barcelona, 7 1 ck.		
Corunna, 2 1 ck.		
Havre, 7		
New York, 20		
Pernambuco, 5		
Magnesium Carbonate—		
Tampico, 2 t. 15 c.	£60	
Seville, 1 2 32		
Magnesium Sulphate—		
Rio de Janeiro, 200 kgs.		
St. Nazaire, 8 cks.		
Metallic Sodium—		
Rotterdam, 5 t.	£984	
Ochre—		
E. London, 20 brls.		
Lisbon, 10		
Para, 30 kgs.		
Rangoon, 50 cks.		
Oxalic Acid—		
Boston, 5 t.	£166	
Paint—		
Alexandria, 4 cks.		
Algiers, 8 kgs. 4		
Amsterdam, 7		
Antwerp, 35 190		
Bombay, 6 13		
Brunswick, Ga., 205		
B. Ayres, 391 pkgs.		
Cadiz, 1		
Calcutta, 4 120 75		
4 cs.		
C. C. Castle, 64		

Cape Haitien, 1	
Cape Town, 25	
Curacao, 30	
Gibraltar, 8 pkgs. 11	6
Havana, 3	
Hong Kong, 98	
Iquique, 12	
Kerasunde, 3 brls. 4	
Kingston, Jam., 2	
Les Cayes, 6	
Lisbon, 16	30
Manaos, 1	
N. Orleans, 7	
New York, 1 cs. 11	100 100
Piræus, 5	
Porto Rico, 68	
Punta Arenas, 3	
Rio de Janeiro, 30	
Rotterdam, 2 cs. 18	147 pkgs.
Samana, 1	
Sanchez, 7	
Santander, 16 dms.	
Sao Thomas, 4	
Valparaiso, 100	
Vera Cruz, 10	115

Painters' Colours—

Acajutla, 1	
Akassa, 15 kgs.	
Alexandria, 35	
Antwerp, 20	
Baltimore, 25 cks.	
Barcelona, 1 kg.	
Bombay, 13 cs. 215	
Bordeaux, 1 bx.	
Boston, 17	
Bremen, 400 bgs.	
Brilla, 100	
E. Ayres, 115 cs. 4	33 brls.
Calcutta, 1	3
Callao, 34	
Constantinople, 300	
Corfu, 6	2
Calcutta, 200	
Cebu, 29	
Hamburg, 200 bgs.	15 3
Hong Kong, 1 bx.	30
Iquique, 2	
La Libertad, 18 cs.	25 5
Leghorn, 2	2
Lisbon, 1	20 11
Manaos, 10	10
Manzanillo, 13	
M. Video, 25	
Montreal, 25	
N. York, 5	
Odessa, 25	
Opport, 2	
Paca, 1	55 25 bdis.
Panama, 15	
Pernambuco, 15	
Salonica, 1	2 brls.
Seville, 8	2
Yokohama, 16	

Paraffin Wax—

Paca, 2 cks.	
Piræus, 2 kgs.	
San Sebastian, 14	
Smyrna, 20	10 cs.

Phosphorus—

Algeria, 1 t. 14 c.	£415
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Plumbago—

Pernambuco, 3 cks.	
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Potassium Bichromate—

Opport, 8 c. 1 q.	£14
Salonica, 10	13
Randers, 3 t. 24	176

Potassium Chlorate—

Berl, 1 t.	£38
Copenhagen, 1	112
St. Petersburg, 1	109
Tampico, 1	100
Santander, 1	88
Yokohama, 10	370
Paris, 1	40
Bombay, 1	18
Stockholm, 1	124
Tampico, 1	8
Piræus, 1	18
Manzanillo, 1	27
New York, 1	28
Manila, 1	48
Bombay, 1	30
Opport, 1	30
Hamburg, 1	39
Algeria, 1	237

Potassium Cyanide—

Canton, 20 c.	£10
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Pumice Stone—

Opport, 10 bgs.	
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Salt—

Acra, 20 t. 17 c.	
Algeria, 20	
Antwerp, 175	

Boston, 620	
Brass, 10	
Brunswick, Ga., 1,000	
Calcutta, 6,758	
Cape Labou, 5	
Charleston, S.C., 50	
E. London, 75	
Faroe Islands, 170	
Galveston, 1,340	
Ghent, 170	
Gd. Bassam, 34	1
Hamburg, 1	14
Manaos, 15	10
Melbourne, 100	
Montreal, 342	
N. Orleans, 200	
Newport News, 150	
New York, 131	17
Old Calabar, 49	
Opobo, 20	1
Para, 24	15
Pt. Natal, 10	
Quebec, 42	
Rio de Janeiro, 10	
Stockholm, 245	19
Svendborg, 500	
Talcahuano, 4	13
Thorshavn, 120	
Tonsberg, 200	
Valparaiso, 3	4

Salt Cake—

Antwerp, 193 t.	1 c.	£180
Wellington, N.Z., 4	3	9
Philadelphia, 170	5	251
Baltimore, 100	14	130
Callao, 5	5	13
Boston, 60	8	71

Saltpetre—

Tampico, 1 t.		£60
Gd. Canary, 2	10 c.	58
Rosario, 2	10	58

Sheep Dip—

M. Video, 5 t. 10 c.		£285
E. Ayres, 20	8	1 q. 750
Punta Arenas, 5	7	2 225

Soap—

Alexandria, 32 cs.	
Amsterdam, 335	
Antigua, 25 bks.	
Antwerp, 120	
Azim, 50	2
Baltimore, 100	
Barbadoes, 85	
Bermuda, 58	
Bordeaux, 1,000	20 tcs.
Boston, 300	
Buguma, 70	250 bdis.
Calcutta, 12	
C. C. Castle, 550	
Cape Town, 9	
Colombo, 624	
Curacao, 35	
Delagoa Bay, 1,334	10
E. London, 240	
Gibraltar, 50	
Gd. Labou, 3	
Havana, 20 dms.	
Iquique, 10	
Kingston, Ja., 2,300	
Kurrachee, 20	
Maceio, 675	
Manaos, 710	
N. Orleans, 670	1,200 2 cks.
New York, 9 pkgs.	

Old Calabar, 724	
Opobo, 620	
Para, 50	8
Pernambuco, 2,700	
Philadelphia, 152	
Pt. Natal, 1	
Quebec, 4	
Rangoon, 331	50 crts.
Rotterdam, 50	
St. John's, 450	
St. Thomas, 250	
San Juan, 67	
Santa Cruz de Tenerife, 4	
Savannah, 750	
Shanghai, 73	
Sierra Leone, 150	
Stockholm, 180	2 cks.
Trinidad, 2	
Valparaiso, 2	

Soda—

Boston, 15 cs.	
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Soda Alkali—

Boston, 150 cks.	
Naples, 35 brls.	
Sydney, 17	
Venice, 100	

Soda Ash—

Adelaide, 20 cks.	
Amsterdam, 20	
Baltimore, 430	4,918 bgs. 93 tcs.
Boston, 243	2,600 282 650 brls.
B. Ayres, 200	40 kgs. 6
Calcutta, 99	
Dunedin, 70	
E. London, 100	
Genoa, 100	
Ghent, 100	
Gothenburg, 24	650
Hamburg, 160	50
Leghorn, 16	
Madeira, 23	8 pkgs. 35 dms.
Melbourne, 50	
M. Video, 15	720 bgs.
Montreal, 32 tcs.	
N. Orleans, 709	
Newport News, 1,181	3,146 487
New York, 1,181	2,094 1,533
Philadelphia, 168	
Puerto Cabello, 20	106
Riga, 210	210 brls.
Rio de Janeiro, 650	
Rotterdam, 25	
Santos, 10	
Singapore, 120	
Smyrna, 10	
Sourabaya, 315	
Stockholm, 103	
Sydney, 20	
Vera Cruz, 100	
Volo, 100	
Wellington, N.Z., 284	
Yokohama, 400	100
Zante, 50	

Soda Crystals—

Barcelona, 16 cks.	
Boston, 74	200 bgs. 616 brls.
Constantinople, 50	
Corfu, 20	
Gibraltar, 50	60 kgs.
Malta, 15	
M. Video, 100	6,20 106
Montreal, 9 cs. 100	112
New York, 140	490
Philadelphia, 380	
Rosario, 100	
St. John's, 50	
Singapore, 25	
Valparaiso, 25	

Sodium Arseniate—

New York, 10 cks.	
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Sodium Bicarbonate—

Adelaide, 140 kgs. 10 cks. 75 bgs.	
Aleppo, 60	8 brls.
Algoa Bay, 50	
Amsterdam, 321	5
Antwerp, 44	60
Auckland, 450	
Baltimore, 130	
Barcelona, 70	
Bombay, 377	
Bordeaux, 86	
Boston, 400	25
B. Ayres, 25	25 sks.
Calcutta, 1,120	5
Canterbury, 20	
C. C. Castle, 5	
Cape Town, 20	100 bgs.
Christchurch, 30	
Constantinople, 160	
Dunedin, 20	
Durban, 10	
Galata, 120	
Genoa, 20	
Gothenburg, 40	
Hamburg, 60	
Havre, 25	
Hong Kong, 30	
Kingston, Jam., 16	
Kolding, 2	
Kurrachee, 40	
Malaga, 30	
Marseilles, 13	
Melbourne, 847	7
M. Video, 150	
Montreal, 468	40 100
Newport News, 250	175
New York, 100	80
Para, 10	
Paris, 235	8
Pt. Natal, 20	20 bgs.
Pt. St. Nicholas, 55	
Rangoon, 25	
Rosario, 100	25
Rotterdam, 160	
Rouen, 37	
St. Petersburg, 200	
St. John's, 200	
San Francisco, 200	
Singapore, 18	
Stockholm, 20	

Sydney, 380	20	30
Toronto, 50		
Valencia, 65		
Valparaiso, 150		
Wellington, N.Z., 120		
Yokohama, 1,000		

Sodium Chlorate—

Antwerp, 44 kgs.	
Rotterdam, 4	

Sodium Hyposulphite—

Calcutta, 10 cks.	
Pernambuco, 55	

Sodium Silicate—

Corunna, 8 brls.	
Malta, 12	
Mauritius, 19 cks.	
Pt. Louis, 5	

Sodium Sulphate—

Boston, 27 cks.	
Montreal, 20 brls.	20 kgs.

Starch—

St. John's, 50 cs.	
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Stearine—

Hamburg, 59 brls.	
Savannah, 50 cs.	
Trieste, 60	

Sulphur—

Paris, 5 t. 25	
Boston, 500	11
Philadelphia, 100	1
Montreal, 4	17 34

Sulphuric Acid—

M. Video, 1 t. 10 c.	
Pernambuco, 8	

Superphosphate—

Gd. Canary, 6 t.	
Nantes, 207	3 c.

Tin Crystals—

New York, 2 t.	
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Treacle—

Amsterdam, 90 brls.	
Antwerp, 10	30 bdis.

Christiania, 10**Copenhagen, 15****Gefle, 25****Ghent, 25****Gothenburg, 45****Hamburg, 25****Norrkoping, 238****Rotterdam, 66****Stockholm, 580****Terneuzen, 10****Turpentine—**

Les Cayes, 16 dms.	
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Varnish—

Aleppo, 1 cs.	
Coquimba, 4	
Genoa, 3	7 cks.
Havana, 1	
Leghorn, 1	
Rotterdam, 1	1 brl.
Talcahuano, 1	

Verdigris—

Piræus, 2 c.	
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White Lead—

Bahia, 60 kgs.	
Calcutta, 80	

Zinc Chloride—

Montreal, 19 c.	
Piræus, 4 t. 17	

Zinc Oxide—

Philadelphia, 6 c.	
Lisbon, 1 ck.	

MANCHESTER**Week ending September 2****Alkali—**

Helmsfors, 30 cks.	
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Ammonium Sulphate—

Valencia, 533 bgs.	
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Alum—

Alexandria, 15 brls.	
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Aniline Salts—

St. Petersburg, 15 pns.	
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Chemicals (otherwise under)

Alexandria, 5 cks.	
Hamburg, 1	

Coal Products (otherwise under)

Hamburg, 39 cks.	
Rotterdam, 31	23 dms.
Barcelona, 10	
Rouen, 5	

Creosote Salts—

Rotterdam, 3 cks.	
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ots—	
37 cks.	
10 cks.	
10	
Oil—	
30 brls.	
Colours—	
2 kgs.	
Bicarbonate—	
8 cks.	
37 t.	
1 cs.	
3 cks.	
25 cks.	
10 cks. 1 dm.	
1 ck.	
HULL.	
Week ending September 21st.	
11 cks.	
52	
19 cks.	
91 bgs.	
227	
12 dms.	
25 brls.	
53 cks.	
53	
4 cks.	
20 btl.	
6 cks.	
35 dms.	
5 pks.	
26 cs. 2 cks.	
1	
1,560 slabs.	
3	
86	
32	
110	
10	
5 kgs.	
1 pk. 40	
4	
1	
Seed Oil—	
685 c.	
250	
17	
335	
151	
365	
1,445	
101	
5 dms.	
1 cs.	
3	
10 cks.	
10 bgs.	
100 c.	
10	
17	
42	
681	
60	
17	
95	
462	
190	
53	
76 bgs.	
75 cks.	

Painters' Colours—	
Amsterdam,	4 cks.
Abo,	1
Antwerp, 1 pk.	41 23 cs. 20 dms.
Boston,	20
Christiania,	50 pks. 2 4
Drontheim,	22 1
Dunkirk,	3
Danzig,	2
Gothenburg,	4
Hamburg,	5 3
Harlingen,	1 pkge.
New York,	100 121
Rotterdam,	20
Stettin,	17 5
Stockholm,	4
St. Petersburg,	67 2
Pitch—	
Antwerp,	150 t.
Sheep Dip—	
Hamburg,	20 dms.
Soap—	
Antwerp,	13 cs.
Christiania,	1
Gothenburg,	1
Hango,	6
Starch—	
Copenhagen,	100 cs.
Tallow—	
Gothenburg,	20 cks.
Stockholm,	72
Tar—	
Antwerp,	26 cks.
Christiania,	10
Harlingen,	10
Stettin,	1
Varnish—	
Antwerp,	1 cs.
Copenhagen,	1
Danzig,	4 cks.
Stettin,	20
Stockholm,	1 2
Whiting—	
Amsterdam,	38 cks.

GLASGOW.

Week ending September 26th.

Ammonium Sulphate—	
Demerara,	8 t. 18 c.
Hamburg,	68 16
Boracic Acid—	
Rotterdam,	5 c.
Caustic Soda—	
Canada,	30 t. 5 c.
Coal Products—	
Creosote Oil	
Christiania,	£11
Pitch	£65
Karachi,	205
U.S.A.,	£50
Tar	
Bombay,	25
Karachi,	185
Rangoon,	
Tar Oil	
Schleswig,	10 t. 15 c.
Copperas—	
Bombay,	£94
Dyestuffs—	
Extracts	
Canada,	£268
Philadelphia,	66
Fustic Extract	
Canada,	£132
Logwood	
Canada,	£46
Lisbon,	28
Dyestuffs (otherwise undescribed)	
Lisbon,	£48
Farina—	
U.S.A.,	2 t. 10 c.
Glucose—	
Cape Town,	5 t. 18 3/4 c.
Iodine—	
Rotterdam,	£360
Iron Liquor—	
Rotterdam,	2 t. 9 c.
Linseed Oil—	
Mauritius,	2 t. 8 c.
Manure—	
Genoa,	59 t. 2 c.
Nitric Acid—	
Karachi,	£26
Paint—	
Bombay,	£26

Painters' Colours—	
Colombo,	£44
Bombay,	53
Cape Town,	110
Rangoon,	75
Paraffin Wax—	
Antwerp,	13 3/4 c.
Cape Town,	£112
E. London,	66
Genoa,	810
Leghorn,	128
Trieste,	25
Venice,	233
Potassium Bichromate—	
Antwerp,	10 t. 1 1/2 c.
U.S.A.,	10 1 1/4
Rotterdam,	£25
Genoa,	32 16
Leghorn,	16 1/2
Lisbon,	6 2 1/4
Venice,	6 16 1/4
Rosin Oil—	
Amsterdam,	£15
Soap—	
Demerara,	12 t. 10 c.
E. London,	5 8
Sodium Arseniate—	
Lisbon,	1 t. 13 c.
Sodium Bichromate—	
Antwerp,	2 t. 3 3/4 c.
U.S.A.,	1 15 1/4
Bari,	2 9 3/4
Genoa,	106 1
Lisbon,	12 3/4
Sulphuric Acid—	
Bombay,	£1,605
Rangoon,	266
Superphosphates—	
Genoa,	68 t. 10 1/4 c.
Venice,	199 1/4
Tallow—	
Rotterdam,	5 t. 10 c.
Transvaal,	2
Drontheim,	5 3/4
Tin Crystals—	
Lisbon,	£23
Treacle—	
Christiania,	32 t. 6 c.
Bergen,	5 3
Drontheim,	7 18 3/4
Turpentine—	
Mauritius,	£52
White Lead—	
Montreal,	£90
Algoa Bay,	137

TYNE.

Week ending September 21st.

Alkali—	
Christiania,	7 t. 3 c.
Rotterdam,	3 17
Amsterdam,	55 17
Riga,	64 4
Ammonia—	
Antwerp,	25 t. 2 c.
Ammonium Carbonate—	
Aarhus,	5 c.
Antimony—	
New York,	22 t. 10 c.
Arsenic—	
Copenhagen,	10 c.
Barium—	
New York,	7 t. 2 c.
Rouen,	5 3 26 cks.
Barytes—	
Rotterdam,	101 t.
Bleaching Powder—	
Antwerp,	21 t. 8 c.
Hamburg,	9 14
Christiania,	17 1
Bergen,	5 2
Terneuzen,	4 18
Aarhus,	10 2
Copenhagen,	2 1
Rotterdam,	20 4
Trondhjem,	10 2
Amsterdam,	23 7
Harlingen,	34 16
Riga,	44 14
Calined Magnesia—	
Genoa,	6 c.
Caustic Soda—	
New York,	146 t. 4 c.
Genoa,	39 14
Antwerp,	12 3
Hamburg,	40

Christiania,	2 18
Trondhjem,	2 18
Riga,	10 3
Castor Oil—	
Bergen,	8 c.
Fluorspar—	
New York,	71 t.
Litharge—	
Rouen,	7 t. 12 c.
Magnesia—	
Hamburg,	1 t. 19 c.
Manganese—	
Savona,	35 t.
Manure—	
Genoa,	30 t. 1 c.
Paint—	
New York,	10 t.
Antwerp,	2
Slag—	
Rotterdam,	112 t.
Soda—	
Genoa,	5 t.
Christiania,	5
Bergen,	10 15 c.
Nykjobing,	20 15 c.
Aarhus,	5 3
Rotterdam,	23 17
Trondhjem,	9 18
Christiansund,	5 3
Amsterdam,	10
Riga,	50 1
Soda Ash—	
Harlingen,	5 t. 5 c.
Sodium Hyposulphite—	
New York,	10 t. 2 c.
Genoa,	1 1
Sodium Sulphate—	
Christiania,	12 t. 10 c.
Sulphur—	
Christiania,	50 t.
Skien,	200
Riga,	100
Superphosphate—	
Genoa,	100 t. 1 c.
Tallow—	
Genoa,	7 t. 4 c.
Tar—	
Copenhagen,	10 t. 12 c.
White Lead—	
Christiania,	10 c.
Copenhagen,	5 t. 2
Bergen,	2
Riga,	7

GOOLE.

Week ending September 18th.

Benzol—	
Boulogne,	71 cks.
Hamburg,	193
Rotterdam,	19
Chemicals (otherwise undescribed)	
Boulogne,	6 cks.
Ghent,	4
Rotterdam,	20 dms.
Coal Products (otherwise undescribed)	
Antwerp,	1 ck.
Boulogne,	3 2 cs.
Ghent,	1
Colours—	
Boulogne,	2 cks. 1 cs. 1 pk.
Hamburg,	1
Dyestuffs (otherwise undescribed)	
Hamburg,	1 ck.
Pitch—	
Antwerp,	382 t.

GRIMSBY.

Week ending September 21st.

Alkali—	
Dieppe,	1 ck.
Port au Prince,	91 dms.
Chemicals (otherwise undescribed)	
Antwerp,	1 ck.
Dieppe,	5 2 cs.
Gothenburg,	12 8 28 dms.
Hamburg,	6 btl.
Coal Products (otherwise undescribed)	
Dieppe,	18 pks.
Hamburg,	18 pks.
Colours—	
Antwerp,	2 cks.
Cape Hayti,	22 pks.
Hamburg,	4
Dyestuffs (otherwise undescribed)	
Dieppe,	6 cks. 2 cs. 1 pkge.

PRICES CURRENT.

WEDNESDAY, OCT. 28

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.B. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	8 9/-
" Glacial	"		10/-
Arsenic S.G., 2000	"	0	15 0
Fluoric	per lb.	0	0 3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
(Cylinder), 30° Tw.	"	0	3 0
Nitric 80° Tw.	per lb.	0	0 1 1/2
Nitrous	"	0	0 1 1/4
Oxalic	nett	0	0 3 3/4
Phosphoric, 1750°	"	0	1 1
Picric	"	0	0 10
Sulphuric (fuming 50 %	per ton	15	10 0
(monohydrate)	"	5	10 0
(Pyrites, 168°)	"	3	0 0
" 150°	"	1	5 0
(free from arsenic, 145°)	"	1	7 6
Sulphurous (solution) S.G. 1025	"	3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric	"	0	11 1/4
Arsenic, white powdered	nett	per ton	15 0 0
Alum (loose lump)	"	4	12 6
Alumina Sulphate (pure)	"	4	12 6
Aluminoferic	"	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	"	0	1 3
" 88° = 28° B.	per lb.	0	0 3
" = 24° B.	"	0	0 2 1/4
Carbonate	nett	"	0 3 3/4
Muriate	per ton	23	10 0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	37/-
Nitrate	per ton	38	10 0
Phosphate	per lb.	0	0 6 1/4
Sulphate (grey) London	per ton	8	16 3
" (grey) Hull	"	8	15 0
Aniline Oil (pure)	per lb.	0	0 5 1/4
Aniline Salt	"	0	0 4 3/4
Antimony	per ton	31	10 0
(tartar emetic)	per lb.	0	0 7
(golden sulphide)	"	0	0 10
Barium Chloride	per ton	6	7 6
Carbonate (native)	"	3	5 0
Sulphate (native levigated)	"	42	6 to 65/-
Bleaching Powder, 35 %	nett	"	7 0 0
Liquor, 7 %	"	3	10 0
Bisulphide of Carbon	"	13	5 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	"	15/-	to 30/-
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 %	nett	per lb.	0 0 8
Magenta	"	0	3 9
Anthracene, 30 % A, f.o.b. London	per unit	per cwt.	0 0 11 1/2
Benzol, 90 % nominal	per gallon	0	1 1 1/2
50/90	"	0	1 0 1/2
Carbolic Acid (crystallised 40°)	per lb.	0	0 5 1/4
(crude 60°)	per gallon	0	1 6 1/2
Creosote (ordinary)	"	0	0 1 1/2
(filtered for Lucigen light)	"	0	0 2
Crude Naphtha 30 % @ 120° C.	"	0	0 5 1/4
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	"	1	15 0
Solvent Naphtha, 90 % at 160°	per gallon	0	1 2
"Lucigen" and "Wells" Oils	"	0	0 2 1/2
Copper	per ton	46	18 9
Sulphate	"	16	10 0
Oxide (copper scales)	"	41	10 0
Glycerine (crude)	"	16	10 0
(distilled S.G. 1250°)	"	42	10 0
Iodine	nett, per oz.	0	0 9
Iron Sulphate (copperas)	per ton	1	5 0
Sulphide (anmonium slag)	"	2	0 0
Lead (sheet) for cash	"	12	2 6
Litharge Flake (ex ship)	"	13	15 0
Acetate (white)	"	22	10 0
" brown	"	14	10 0
Carbonate (white lead) pure	"	16	0 0
Nitrate	"	19	0 0

Lime, Acetate (brown)	per ton	5	
" (grey)	"	3	
Magnesium (ribbon and wire)	per oz.	0	
Chloride (ex ship)	per ton	4	
Carbonate	per cwt.	1	
Hydrate	per ton	17	
Sulphate (Epsom Salts)	per ton	3	
Manganese, Sulphate	"	17	
Borate	per cwt.	2	
Ore, 70 %	per ton	4	
Methylated Spirit, 61° O.P.	per gallon	0	
Naphtha (Wood), Solvent	"	0	
" Miscible, 60° O.P.	"	0	
Oils:—			
Cotton-seed	per ton	18	
Linseed	"	22	
Petroleum, American	per gallon	0	
Stearine	per ton	24	
Phosphorus (yellow)	per lb.	0	
(red)	"	0	
Potassium (metal)	per oz.	0	
Bichromate	nett	per lb.	0
Carbonate, 90% (ex ship)	per ton	17	
Chlorate	per lb.	0	
Cyanide, 98%	"	0	
Hydrate (Caustic Potash) 80/85 %	per ton	21	
" (Caustic Potash) 75/80 %	"	20	
" (Caustic Potash) 70/75 %	"	19	
Nitrate (refined)	per cwt.	1	
Permanganate	per cwt.	2	
Prussiate Yellow	per lb.	0	
Sulphate, 90 % (ex ship)	per ton	4	
Muriate, 80 % (do.)	"	3	
Silver (metal)	per oz.	0	
Nitrate	"	0	
Sodium (metal)	per lb.	0	
Carb. (refined Soda-ash) 48 %	nett	per ton	4
" (Caustic Soda-ash) 48 %	"	3	
" (Carb. Soda-ash) 48%	"	3	
" (Alkali) 58 %	"	3	
" (Soda Crystals)	"	2	
Acetate (ex-ship)	"	14	
Arseniate, 45 %	"	11	
Chlorate	per lb.	0	
Borate (Borax)	nett, per ton	19	
Bichromate	per lb.	0	
Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	"	9	
" (74 % Caustic Soda)	"	8	
" (70 % Caustic Soda)	"	7	
" (60 % Caustic Soda)	"	6	
" (60 % Caustic Soda, cream) (f.o.b.)	"	10	
Bicarbonate	"	6	
Hypsulphite	"	5	
Manganate, 30%	"	10	
Nitrate (95 %) ex-ship Liverpool	per cwt.	0	
Nitrite, 98 %	per ton	29	
Phosphate	"	13	
Silicate (glass)	per ton	4	
" (liquid, 100° Tw.)	"	3	
Stannate, 40 %	per cwt.	3	
Sulphate (Salt-cake)	per ton	1	
" (Glauber's Salts)	"	1	
Sulphide	"	3	
Sulphite	"	5	
Strontium Hydrate, 100%	"	3	
Sulphocyanide Ammonium, 95 %	per lb.	0	
Barium, 95 %	"	0	
Potassium	"	0	
Sulphur (Flowers)	per ton	6	
(Roll Brimstone)	"	5	
Brimstone: Best Quality	"	12	
Superphosphate of Lime (26%)	"	7	
Tallow	"	23	
Tin Crystals	per lb.	0	
English Ingots	per ton	0	
Zinc (Spelter)	"	15	
Chloride (solution, 100° Tw.)	"	5	

THE CHEMICAL TRADE JOURNAL

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138.

SATURDAY, OCTOBER 12, 1895.

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ADVERTISEMENT.

Kremnolite Company, Ltd., are prepared to treat chemical Manufacturers and others, for the manufacture of their patented pigment, which has already met with great success in the treatment of washings using Kremnolite have repeatedly been placed at the head of the list monthly by the Mersey and Irwell Joint Committee.—Full particulars in to 100, Tweeddale-street, Rochdale.

Notices.

Communications for the *Chemical Trade Journal* should be sent to the Editor, and Cheques and Post Office Orders made payable to—

DAVIS BROS., 32, Blackfriars Street, MANCHESTER.

Our Registered Telegraphic Address is—

"Expert, Manchester."

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Contributors are invited to forward items of intelligence, or cuttings from newspapers, of interest to the trades concerned.

Communications for the Editor, if intended for insertion in the next week's issue, should reach the office not later than Tuesday evening.

Advertisements.

Advertisements of Situations Vacant, Premises on Sale or To be Let, and Wants, and Specific Articles for Sale by Private Contract are charged at the *Chemical Trade Journal* at the following rates:—

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Each additional 10 words	6d. " "

Advertisements, Announcements in the Directory Columns, and all Advertisements not prepaid, are charged at the Tariff rates which will be forwarded on request.

Advertisements intended for insertion in the current week's issue should reach the office by Thursday morning at the latest.

CURRENT TOPICS.

RIVER POLLUTION AMENITIES.

THOSE who are possessed of the faculty of seeing the humour of every day things, would have had an amusing treat, had they been able to witness the proceedings of the Mersey and Irwell Joint Committee on Monday. The Manchester City Surveyor laid before the Committee an elaborate explanation of what the Corporation were doing with regard to the treatment of the sewage at Davyhulme. The remarks of this worthy gentleman do not inspire great confidence, after hearing his opinion upon the recent filtration experiments of the London County Council. Though the comparison may not be very acceptable in certain quarters, still, up to now, the Corporation appears to be doing just about as much as their next door neighbour, Salford, viz.: a great deal of watching, rather less experimenting, and very little sewage treating. The excuse which the Corporation advance in explanation of their tardy procedure, is exactly on all fours with the now all too familiar one formerly adopted by local authorities and manufacturers. The consideration accorded to this excuse in the case of the latter has been very different to that given to the Corporation. When, in the past, the Committee complained because of the provision of insufficient land, the manufacturer pleaded the difficulty and expense of getting it, while he did not want to spend some hundreds of pounds unless he was assured that his final treatment would be satisfactory. All this, the Committee would answer, was none of their business, they had to stop pollution, and stop it they would. This way of looking at the matter was exasperating to the manufacturer, who was contemplating an outlay, as serious to him as the £25,000. that the Corporation contemplate spending. But it must be even more exasperating to him, now, to learn that when the day of reckoning came for the Corporation with their thousands, they were allowed time for consideration that was not accorded him, though he, too, was facing an expenditure relatively equivalent to thousands, instead of hundreds, of pounds.

When manufacturers were being put to rights, they were not allowed to bring specialists to plead their cause before the Committee, so that when Sir Henry Roscoe, as joint adviser of the Committee on one hand and the Corporation on the other, began to add his testimony in support of the scheme by which the Corporation would justify delaying the definite treatment of their sewage, it is hardly remarkable that one member of the Committee made bold to ask the exact position of Sir Henry in reference to the matter under discussion. For our own part we have been considerably embarrassed in the past, for this very reason, to know how to interpret all that has transpired at the meetings of the Committee. We are confident that the exact position Sir Henry now holds does not at the moment reflect adversely on him. But it is not everybody who knows the exact

relative positions of Sir Henry to his Committee—for whom he acts as a paid official—and the Corporation, for whom he appears to act as a *Fidus Achates*. To those who are not in possession of this information it truly does not seem an irrelevant question to inquire whether Sir Henry would appear as counsel for the plaintiff or the defendant in the event of its becoming the duty of the Committee to use the same means as were adopted for awakening Salford, and prosecute the Manchester Corporation. The chairman very desirably laid the matter to rest, but in doing so he unfortunately considerably exposed the greatness of his ignorance about the precise bearings of this matter. Taking into consideration the number of experiments Salford has made on filtration, and the information in Mr. Dibdin's report (faulty and incomplete though it be), it appears as if the time had about come when experiments should give place to practice. Despite all the independent work that the Corporation has been "carefully watching," more experiments appear imminent before the first step towards regular treatment will be taken. This is the point the Committee have to base judgment on, regardless of the question of cost—that is, if they are to act consistently with their past policy.

AN ANTI-ALKALI COMBINE MOVEMENT.

We have more than once protested against the overruling passion for cheapness that is characteristic of the latter half of this century, and insisted on the evils that inevitably attend the adoption of excessively low prices.

One of the consequent evils of very low values is that when the time arrives, as it always does, that makers combine together to secure for themselves a price that leaves them a reasonable profit, those who have to pay the piper strongly resent the change. Having been used to very low prices, they are very loth to see any movement which is not towards a further reduction. Their protests are generally unavailing, but there are to be found, here and there, those who, when they can no longer buy at prices low enough for their liking, turn manufacturers themselves.

One result of the recent alkali combination promises to be that a firm who are very large consumers of soda ash will take to the manufacture of the product for themselves. We refer to Messrs. Crossfield, of Warrington.

The question is, of course, solely one of prices, and it remains to be seen how far the firm will go in this matter. So far there has been no reason to suppose that the promoters of the alkali combine have any other motive than that of securing a remunerative price for their products, and if this policy is continued we do not see that consumers have cause to fear that prices will be advanced excessively, any more than they had ground to suppose that soda products would be obtainable at the figures that have been current during the past eight months. It is perfectly within the right of a firm to make any product for their own use, if they find that they can do so more cheaply than they can purchase direct from the makers. At the same time there are a number of smaller consumers who are inclined to think that such a departure inevitably spells exorbitant prices, and it is on this account that we have taken this opportunity of referring to the matter. It is naturally one that stands prominently before the notice of numbers of relatively small consumers, who are only too anxious to safeguard against the troubles that threaten them if prices are to be raised to such a point as to enable makers to recoup some of their losses; but before going to extremes on the strength of the information they now have, we think it will be wiser to wait a while

until there are unmistakable evidences that prices are to be raised to an unjustifiable degree.

WASTE ACID PROSECUTIONS.

The Wolverhampton Corporation appear to have more started on a crusade against galvanisers, in connection with the treatment of their waste acid. It is well known the presence of iron in the sewers leads to a great trouble with the sewage at the Barnhurst works, and for not unnaturally the Corporation are disposed to lay down on the manufacturers who practically cause the trouble. At the same time it must be remembered that galvanising industry in the Midlands is a very important one, which calls for some consideration in matters affecting its vitality. Unfortunately the attitude of the Corporation in the past has been one calculated to do bad blood rather than to secure that spirit of co-operation which is essential to the successful solution of this question which admittedly presents difficulties on both sides. Three years ago when the matter was attracting a deal of attention, the Corporation had an opportunity of considering a scheme that, whatever its defects, was a advance on the methods they were then employing to do the evil. But for reasons best known to the Corporation they would not have anything to do with the scheme, not so far as ascertaining whether it was likely to be held the slightest degree. We are pleased to see that the Corporation have been gracious enough to make a slight concession by now allowing their inspectors to leave a duplicate sample taken, at the works where they are obtained—a satisfactory advance upon their discourteous and unlike practice of three years ago. It seems a pity, that a partial body, representing both sides, and consisting of members fully qualified to discuss this matter in all its bearings cannot be brought together to consider an arrangement whereby the manufacturer and the Corporation would be apportioned their due respective shares of responsibility, tempered with measures for mutual protection. Until something of this nature is done we fear a useless and vexatious feud will long be maintained between the rival interests concerned.

EXPORTS OF PETROLEUM FROM U.S.

THE Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for August. The total shipments were 69,997,113 compared with 81,794,641 gallons in August, 1894. The total for the eight months ending August 31st, 1895, was 542,202,342 against 575,315,844 gallons during the same period in 1894. Details of the shipments are as follow:—

CRUDE PETROLEUM.		Gallons.
Total, August, 1895	.....	10,112,224
" " 1894	.....	11,358,405
NAPHTHAS.		
Total, August, 1895	.....	546,086
" " 1894	.....	1,204,811
ILLUMINATING.		
Total, August, 1895	.....	55,379,800
" " 1894	.....	66,193,356
LUBRICATING AND PARAFFIN.		
Total, August, 1895	.....	3,753,629
" " 1894	.....	3,027,296
RESIDUUM.		
Total, August, 1895	.....	4,404
" " 1894	.....	4,872

The Patent List.

This list is compiled from Official sources in the Manchester Laboratory, under the immediate supervision of E. Davis and Alfred R. Davis, who report professionally the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Consumer. J. Elliott. 17,682. September 23.
 Elements in Electrolytic Cells. H. H. Lake. 17,745. September 23.
 Process for Decomposing Calcium Carbide. H. Gabe. 17,746. Sept. 23.
 Pig Aluminium. J. Swineburne and A. A. Beadle. 17,766. Sept. 24.
 Red Metallic Paint. R. A. Sloan. 17,786. September 24.
 Refining Precious Metals. H. L. Sulman and H. F. Kirkpatrick-Pickard. 17,811. September 24.
 System for Denoting Degrees of Pressure of Ammonia and other gases used in Refrigerators. A. Langley. 17,838. September 24.
 Structure of Blandite and other Rubber Substitutes. R. V. Ash and J. Smith. 17,874. September 25.
 Elements in Ferro-sodium Fluxes. W. J. May. 17,901. September 25.
 Refining Sodium Carbonate and Chlorine by Electricity. R. W. Hill. 17,915. September 25.
 Fermentation and Lime Kiln Gases for Making Bicarbonates of Alkalies and Pure CO₂ for Aeration, etc. C. D. Abel. 18,016. September 26.
 Mole Fibre Soap. E. Ubrig. 18,017. September 26.
 Elements in Generating Acetylene Gas. H. Schneider. 18,041. September 26.
 Refining Ammonia from Sewage and other Ammoniacal Liquors. J. Illingworth and D. Arthur. 18,076. September 27.
 Refining Precious Metals. H. L. Sulman and H. F. Kirkpatrick-Pickard. 17,911. September 27.
 Refining Precious Metals. H. L. Sulman and H. F. Kirkpatrick-Pickard. 18,011. September 27.
 Refining Sewage, etc. J. W. Slater and Native Guano Co., Ltd. 18,093. September 27.
 Method of Treatment of Copper Liquors and Manufacture of Chlorine. E. Davis. 18,096. September 27.
 Structure of Soap. R. E. Green. 18,163. September 28.

TRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal. All rights of publication are reserved. This is the earliest of abstracts of Chemical and allied patents accessible to the public.

Structure or Production of Titanium and Alloys thereof. H. Molissen, rue des Halles, Paris. Eng. Pat. 3,073. February 12, 1895.

Titanium has hitherto been obtained merely as a laboratory curiosity, more or less impure. The patentee, by means of his well-known furnace, heats a mixture of pure titanite acid and carbon to a temperature above the point at which nitrite of titanium decomposes. The way titanium containing only 2% to 6% of carbon is obtained. The product contains small amounts of silicon and iron, and titanium so obtained is used for preparing alloys. In the course of the exact process the following details may be cited:—Parts of rutile and 96 of carbon by weight are heated with a current of 1,000 to 2,000 amperes, and 60 to 70 volts. In ten minutes is obtained covered with a yellowish layer of oxide, which has a metallic appearance. The definite carbide TiC is formed, of the colour of galena, and has a specific gravity of about 4.3. It can be prepared direct by melting the metal to be used in the furnace, and treating the same with a mixture of rutile and carbon. An alloy of titanium with either iron or nickel is soluble in molten iron, and cast iron.

Processes Relating to the Precipitation of Sewage and Waste Liquors, and the Utilization of the Products. W. E. Adeney, 1, Eaton Square, Monkstown, and W. K. Parry, 6, Charlemont Terrace, Kingstown, both Dublin. Eng. Pat. 21,635. November 9, 1894.

Various patents (Nos. 3,312/90, 18,983/90, 10,929/91, and 13,154/93) have been issued for the precipitation of sewage, etc., with sulphates of aluminium, iron, and manganese. This patent deals with a method of recovering these salts from the sludge in a fit state for use as a precipitant.

The precipitate of hydrate, carbonate, and basic sulphates, that results from the treatment of the sewage is pumped into a separate tank and treated with sulphuric acid of 1.6 sp. gr. of HCl of 1.12 sp. gr. in sufficient quantity to extract the compounds of iron or aluminium in the precipitate.

There must be no free acid left unneutralised. The digestion will be complete in six to twenty-four hours, according to whether heat is used or not. If oxyhydrate of manganese is present stronger acid must be used—namely, H₂SO₄ of 1.8 and HCl of 1.17 sp. gr.

It is also proposed to treat Weldon mud, or basic slag, by treating it with acid or fusing with bisulphate of soda respectively, so obtaining salts to be used as precipitants.

The organic portions of the sludge are separated by subsidence or filter pressing after treatment with acid, and disposed of in the usual way.

Improved Compounds for Filtering and Purifying Liquids. C. D. Abel, 25, Southampton Buildings, London, W.C. (communicated by A. Schlumberger, Montreuil, near Paris). Eng. Pat. 20,790. October 30, 1894.

A porous body such as pumice, asbestos, porcelain, or charcoal, is impregnated with alum or acetate of aluminium and immersed in benzoate of soda, forming a filtering medium encased in an antiseptic substance.

In a second process a special oxide capable of giving off oxygen is used, as, for instance, hydrated oxide of manganese. To prepare this latter form of filter, a boiling solution of permanganate of potash is added to the carbon till there is no further discolouration. The charcoal is then washed, and is ready for use.

The filters may be used separately or connected in series, the manganese filter following the benzoated medium. For large installations the water is first passed through an ordinary filter or filter press to remove suspended matters.

An Improved Process for the Chemical Disaggregation of Pyrites of Complex Composition with a view to the Rapid Extraction of the Metals contained therein, such as Gold and Silver, Arsenic, Antimony, and Tellurium. M. Body, 30, Rue de l'Equateur, Brussels. Eng. Pat. 10,827. June 4, 1894.

The object is to convert crystalline pyrites into amorphous sulphides by treating the pyrites with carbon, a basic alkaline salt, and, if necessary, sulphur in a muffle furnace, so as to form basic sulphides in which sulphides of arsenic and antimony, etc., are soluble. The melt is run into tanks, and agitated with water, yielding a sediment and an upper body of fluid containing rich sulphide muds. The upper portion is decanted and blown with air and sulphur dioxide obtained from the muffle furnace. In this way the arsenic is rendered soluble in the supernatant liquor, while a sediment containing nearly all the gold and silver settles out. This sediment is treated in any suitable way for the precious metals it contains. If the ore contains antimony it passes into the arsenical liquid to be there precipitated with by lime.

EXPORTS OF ALKALI AND BLEACH.

THE following figures, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries during the month of August, 1895, as compared with the same month in 1894:—

ALKALI.				
Port.	1894.	1895.	1894.	1895.
	Cwts.	Cwts.	£	£
Russia	24,297	16,015	8,354	4,588
Sweden and Norway	17,998	18,479	3,505	3,623
Germany	8,472	9,231	3,545	2,963
Holland	6,439	14,142	1,507	3,503
France	4,398	4,735	1,757	1,843
Spain and Canaries	20,582	37,897	8,789	13,074
Italy	18,001	21,877	7,057	6,918
United States	182,843	231,422	42,452	51,834
Australasia	14,143	21,647	4,543	6,580
British North America ..	15,403	13,117	4,121	3,557
Other countries	76,998	90,658	25,288	26,309
Total	389,574	479,220	110,978	124,852

BLEACHING POWDER, ETC.				
Port.	1894.	1895.	1894.	1895.
	Cwts.	Cwts.	£	£
United States	54,971	67,762	21,563	24,336
Other countries	36,567	43,902	14,040	15,243
Total	91,538	111,664	35,603	39,579

USE OF ANTIMONY DOUBLE SALT IN DYEING.—A recent number of the *Leipsiger Farber-Zeitung* contains an article on the use of this double salt as a substitute for tartar emetic, which may have an interest for our readers. After some sweeping strictures upon substitutes in general, and substitutes for dyeing materials in particular, the author announces that he has come across an exception to the rule, and can safely recommend the "double salt of antimony," prepared by Messrs. Königswarter and Ebell, of Linden vor Hanover, Germany. This salt contains 58% of antimony oxide, against 43% in tartar emetic, while it is cheaper, and answers in every respect as well as or better than the latter agent.

Modern Oil Engines.

THE HOWARD ENGINE.

In general appearance this engine resembles the well known "Otto" gas engine, and it works on the Beau de Rochas cycle, but differs from other oil engines in the design of the vaporiser and method of controlling and regulating the charges of oil. By the complete control obtained the makers claim to have effectually overcome what in so many engines is a serious defect, viz., the tarring and sooting up of the combustion chamber and piston, and the result is that the Howard petroleum oil engine can be worked continuously for a considerable time without having to be taken to pieces for cleaning. The oil is drawn from the tank in the engine bed (fig. 1) by a pump and discharged into the vaporiser, where, after being converted into vapour, it passes through the vaporiser valve into the mixing passage, and then meets and mixes with the main air supply. The mixed vapour is then carried into the cylinder, where it is compressed and then exploded by means of an ignition tube.

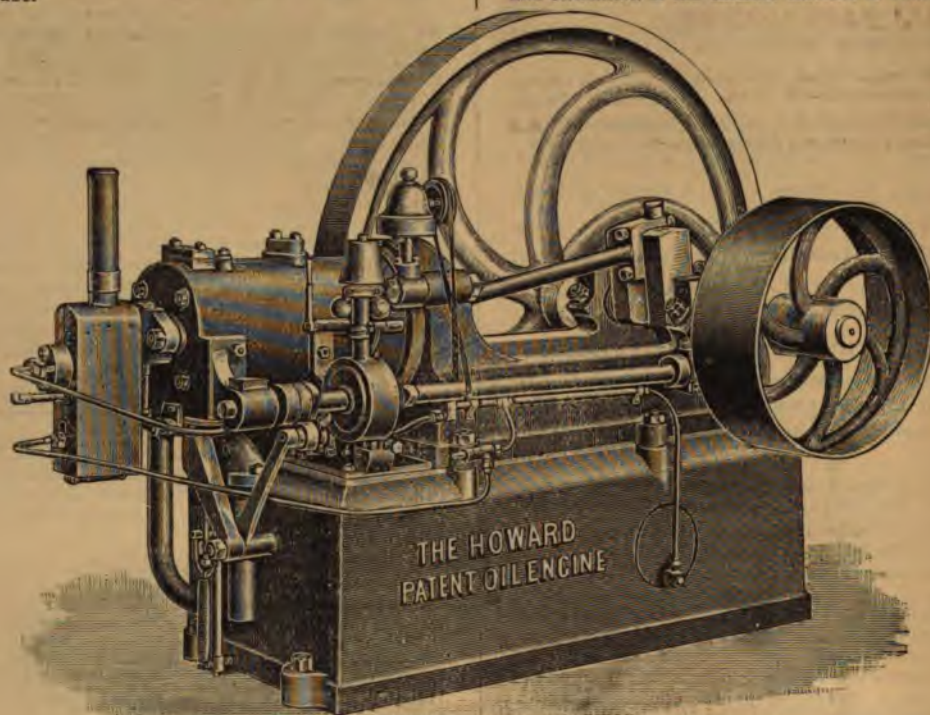


FIG. 1.

The vaporiser consists of a cast-iron block, in which is formed a triple winding passage, and is heated by means of a self vaporising lamp. The lamp also heats the ignition tube which is placed between it and the vaporiser.

To one end of the vaporiser passage a valve is attached to supply a small quantity of air during the admission stroke of the piston. The charge of oil is delivered through a nozzle into the intermediate passage in the vaporiser, and here it meets the current of heated air, and is carried with it into the hottest part of the vaporiser, where it is effectually vaporised before being carried into the cylinder. One valve regulates the supply of oil to the vaporiser and another the supply of vapour to the cylinder, both being controlled by a governor on the "hit and miss" principle.

The main air supply is received through an automatic valve into the mixing passage, where it meets the oil vapour before passing into the cylinder, thereby ensuring intimate mixture. The lamp is fed from an air-tight tank into which oil is forced under pressure by the pump for the vaporiser, and when the air pressure in the tank equals a weighted relief valve the surplus oil runs into the main oil tank.

The second illustration (fig. 2) shows the compact and very convenient general arrangement of the Howard portable oil engine, which is self contained, and requires no separate water tanks or exhaust pipes. The oil supply is also carried in a cistern below the engine bed. The working of the Howard portable oil engine is in most respects the same as that of the fixed engine just described, and in addition it carries a water cooling arrangement by which the water, after passing through the engine cylinder jacket, is carried to the top of the water cistern and

cooled before passing again to the cylinder jacket. The exhaust is carried into the chimney shown in the illustration.

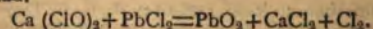
For driving threshing machines, and in fact any other machines taking the motive power by belt, the Howard portable engine is remarkable for convenience and adaptability. The driving pulleys, or fly wheels, as may be seen, are arranged for driving from either side and to lead off from the front or rear of the engine. The travelling wheels are large, and have wide tyres, and the forecarriage is constructed to lock under the engine bed exactly as with an ordinary portable steam engine, thus enabling the engine to be turned in a very small space, an advantage which will be appreciated by users who may have to work in a stackyard or other confined spaces.

THE ESTIMATION OF CHLORATE IN BLEACH.

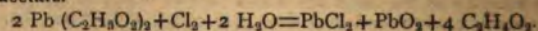
A RECENT number of the *Zeitschrift für Angewandte Chemie* contains a communication by R. Fresenius upon the detection and estimation of the calcium chlorate in bleaching powder.

The method which the author adopts is briefly as follows:—Twenty grams of bleach are rubbed finely in a mortar with a small quantity of water. More water is gradually added, and the whole transferred to a litre flask, made up to the mark, well shaken, allowed to settle, and filtered through a dry filter. For a determination, whether quantitative or qualitative, 50 c.c. of the filtrate are employed.

In either case the measured quantity is transferred to a flask and treated with excess of neutral lead acetate solution. At first a white precipitate is formed, consisting of the mixed chloride and hydrated oxide of lead, which in the presence of hypochlorite of lime and free chlorine passes from yellow into a brown colour with formation of peroxide of lead.



The precipitate is allowed to settle, and to the supernatant liquor a little more lead solution is added to ensure the presence of an excess of this reagent, and, this point being ascertained, the unstoppered flask is allowed to stand for some time, with occasional shaking. After 8 or 10 hours the smell of chlorine will have disappeared, partly from the escape of the gas and partly by reason of its reaction upon the excess of lead acetate.



If only a qualitative determination is to be made, the precipitate is removed by filtration, and then the lead separated by the addition of a slight excess of dilute sulphuric acid. The filtrate from the lead sulphate is treated with a small quantity of indigo solution, and to this is added drop by drop an aqueous solution of sulphurous acid. If

ic acid be present it is reduced by the sulphurous acid, and the ous compounds formed (or chlorine, as the reaction proceeds) destroy the colour of the indigo. Of course it need hardly be ed out that an excess of sulphurous acid must be avoided, as this d react upon the liberated chlorine, converting the latter into ochloric acid.

hen a quantitative estimation is to be made, the mixed precipitate lride and peroxide of lead, obtained as above, is washed upon lter to a neutral reaction. The washings are somewhat con- ated by evaporation and added to the filtrate, which is then ed with carbonate of soda solution in slight excess. After standing time, the carbonates of lead and calcium are filtered off, washed, he filtrate, after being evaporated almost to dryness, is transferred small flask and the chloric acid estimated by Bunsen's method of lation with strong hydrochloric acid into a solution of potassium e, the determination being completed by titration with hypo- lite, or according to the modification of Finkener.

ALKALI MANUFACTURE.*

By F. W. S. CHENHALL.

e knowledge of the use of alkali, in one or other of its various , dates as far back, if not farther, than the acquaintance of man- with any other chemicals; and it would be difficult to name any ances which have been of greater utility in the industrial world.

The word "lixivium" used by the Romans, and derived from *lix*, signifies a lye made with ashes; while *lixa*, another Latin term, means a worker in ashes. Both these words are used in the same acceptation by Pliny in the century preceding the Christian era. The word "alkali," however, is of Arabian origin, is derived from "kali," the name of a plant used for the extraction of soda, and signifies the "dregs of bitterness." The prefix, "al," was added to indicate the superiority of the product of the plant over the plant itself. The word "kali" was used by Pliny to indicate a vegetable flourishing in alkaline soil in Egypt. Marcus Terentius Varro, a renowned Roman general, who wrote in the first century, said that some of the inhabitants on the Rhine used as a substitute for edible salt a substance obtained from some species of wood. These people had evidently discovered means of neutralising the alkali obtained from their forests in order to make it suitable for culinary purposes.

The best form of vegetable soda was obtained from the "soda plant," and given the name of "barilla" by the Spaniards, in whose country it mainly occurred, although it was known throughout the Continent under other names. The chief constituent of the soluble part of land plants is carbonate of potash, the plants containing soda being chiefly found on the seashore and near salt springs. The name of "kelp" was given by the Scots to the ashes of a plant growing in the sea itself, and which contained very little soda, but a large quantity of potash. The alkali plant of the Spaniards was so highly valued by them that the exportation of its seeds was made punishable with death.

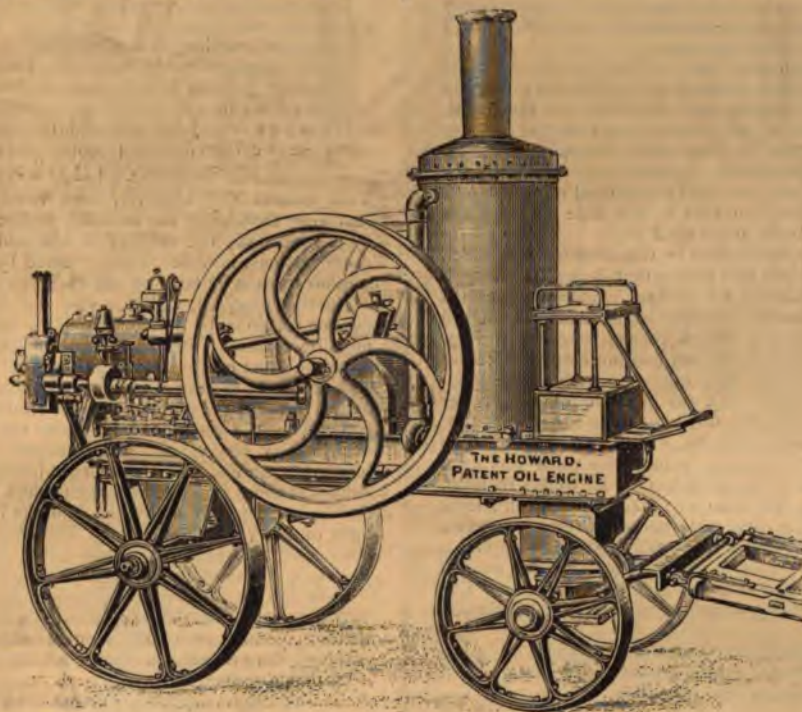


FIG. 2.

is uncertain whether potash or soda was first known to the nts, and doubtless these two forms of alkali were originally unded.

tural soda occurs in mineral waters and as efflorescences; the form being the result of evaporation of lakes, &c., and occurs ly in Europe, Central Africa, and the two American Continents. Owens Lake, in California, is said to contain from twenty to forty on tons of carbonate of soda, and will unquestionably one day me a great source of wealth. These natural forms of soda are ated Natron, Trona, and Urao, the latter being the principal, aving the formula Na_2CO_3 , NaHCO_3 , $2\text{H}_2\text{O}$. Mineral soda is largely used, mainly for soap making.

ie antiquity of the use of alkali and the excellence of soap in the time was evidenced in a discovery of a complete soap-maker's in the ancient submerged city of Pompeii. The soap, which was nearly 1,800 years after its manufacture, was perfectly preserved. nstituents were oil and alkali.

ie artificial soda used from the earliest times up to the new era urated by Leblanc was that obtained by the burning of plants.

In making barilla the wood was collected into heaps, then spread to dry, and burnt to ashes in ovens made with brick or stone and built in the ground. By increased heat the alkali was melted and the whole combined into a solid mass, which, when cool, was broken with large iron bars into heavy masses and thus sold. The quantity of carbonate of soda contained in barilla was from 2 to 13.76 per cent. It is surprising that a form of alkali so impure as barilla should have held its ground so long. In 1837 the imports amounted to 12,000 tons, and in 1862 to 1,262.

Scheele first attacked the problem of soda manufacture in 1736. He followed up the discovery of Duhamel's (1736) that soda and salt both had a common base, by discovering that caustic soda could be made from salt by means of lead oxide.

Nicolas Leblanc, the author of the famous process of alkali manufacture which until a comparatively short time ago had practically no competitors, obtained little except disappointment and hardship from his invention. His process was tried at about the time of the French Revolution, when anarchy was prevalent, and he unfortunately felt its effects severely. In 1775 the French Academy of Science offered a prize of 2,400 livres for a method of making soda from salt. Out of

several competitors Leblanc alone succeeded in solving the problem, but although he nominally won the prize, he never received it. The patent which he obtained in 1791 was for a process essentially the same as that now employed. In order to obtain capital to work his invention he entered into partnership with the Duke of Orleans, by whom he was employed as domestic physician. By means of the capital thus placed at his disposal a works was opened at St. Denis. But he soon met with misfortune. His patron was executed in November, 1793, and shortly afterward the authorities confiscated his works and his patent, and the latter was made public property for the good of his country. The Government realised 120,818 francs, 42 centimes by the sale of the contents of the works. After this he filled many political and scientific positions, without remuneration but with plenty of work. He, of course, continually agitated for restitution, but after seven years he only obtained the miserable sum of 600 francs (£24.) and his dismantled works, which he failed to bring back to the original state, although he borrowed money and deprived himself of the ordinary requisites of life for the purpose. Leblanc had estimated his loss at one million francs. During the time of the deprivation of his works, other factories had been started in Marseilles to work his invention, and he was never able to compete with them. In 1806 he was awarded a further sum, but it was so small and his troubles were so overwhelming that he ended his life with a pistol shot on January 16th, 1806. The sum awarded was not even paid to his family, who were compelled to take to manual work for a livelihood. Since then his descendants have received slight compensation from Napoleon III., and a statue was erected to his memory in 1886 at Paris. Too many national benefactors have had their worth recognised only by a statue after their decease.

England has done more than any other country to promote the manufacture of soda by the Leblanc process, although many important improvements have been made during late years on the Continent, while the credit of the invention of the ammonia soda process belongs to Englishmen. It was invented by Dyar and Hemming in 1838. Although the chemical principles now in operation are practically the same as from the beginning, it was not until mechanical improvements had been made by Solvay, in Belgium, that it was able to rival the Leblanc process. This did not take place until 1872.

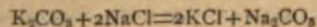
The original form of alkali manufactured in this country was black ash, and it was not until experience had shown that it lost its strength when exported that it was abandoned for sodium carbonate, obtained by the lixiviation, evaporation, and calcination of the black ash. Until James Muspratt made black ash of a strength of 24 per cent. in 1823, it had only contained about 10 per cent., and had not displaced kelp.

The manufacture of soda from cryolite was commenced in Copenhagen in 1857. In 1809 the price of 3 per cent. kelp was £11. per ton, and barilla containing 25 per cent. of soda fetched £45. per ton. In 1806, when crystal soda was made by W. S. Losh in the North of England by the decomposition of Russian potash, the price was £60. per ton. Afterwards the prices of the Leblanc product were—In 1809, £71. per ton; in 1814, £60. per ton; in 1824, £29. per ton; from 1868 to 1878 the average was £4. 10s. per ton, and the average price of soda ash £8. per ton. In 1824 the total production of Great Britain was 100 tons per week. Now it is over 8,308 tons per week if the whole of the soda is interpreted in terms of pure carbonate. The various processes proposed for the manufacture of soda may be classed as follows:—

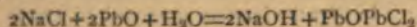
- (1) From sodium chloride without conversion into sulphate.
- (2) From sodium sulphate without conversion into sulphide.
- (3) From sulphate after conversion into sulphide.
- (4) From sodium nitrate.
- (5) From aluminium sodium fluoride.

It is not, of course, within the scope of this paper to give the whole of the processes proposed, and the following have been selected:—

(1) From sodium chloride without conversion into sulphate. When potash was less valuable than soda, Losh and others made soda from salt and potash.



As before stated, Scheele used lead oxide as a reagent and the reaction:—

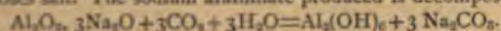


This failed through the incompleteness of the reaction.

The process patented by W. Weldon in 1866 also failed through incomplete reaction, which was expected to be:—



Tilghman in 1847 tried alumina, which at very high temperature decomposes salt. The sodium aluminate produced is decomposed:—



This process failed through the strain upon the vessels caused by the use of high temperature.

Many inventors have tried to obtain the reaction $NaCl + H_2O = NaOH + HCl$ at high temperatures, but incompleteness has again been the obstacle.

In this class the ammonia-soda process and the electrolytic process are included.

(2) From sodium sulphate without conversion into sulphide.

Lunge in 1866 patented a process for the decomposition of sulphate by barium bi-carbonate. A current of carbon dioxide passed into an agitated mixture of barium carbonate with dissolved sodium sulphate. The inability of recovering the barium carbonate from the barium sulphate prevents the success of this process. Timan in 1847 proposed the use of alumina with sulphate similarly to use of alumina with the chloride.

Sodium silicate, formed by the decomposition of the sulphate silica in the presence of coal, has been proposed to be treated for conversion into carbonate or hydroxide.

Crude phenol from coal tar is agitated with milk of lime, calcium phenate being obtained. By treatment of the phenate with sodium sulphate a precipitate of calcium sulphate is obtained, and the solution of sodium phenate produced is decomposed by means of carbon dioxide into sodium carbonate and free phenol, the latter substance being again. This process is considered not to be practicable owing to loss of phenol.

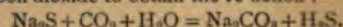
Salt cake, by treatment with calcium sulphhydrate is converted into sodium sulphhydrate and calcium sulphate. This process is carried by means of a pressure of about five atmospheres. From the liquor bi-carbonate of sodium is precipitated by the action of carbon dioxide, and calcium sulphhydrate reformed by passing the liberated sulphuretted hydrogen into milk of lime.

Calcium phosphate, reacting with sodium sulphate, produces sodium phosphate, which is in its turn heated with caustic lime to produce caustic soda and phosphate of calcium.

(3) From sulphate after conversion into sulphide.

The chief process in this class is that of Leblanc, who employed calcium carbonate.

It has very often been proposed to reduce the salt cake, and then make use of carbon dioxide to obtain the re-action:—



This process has, however, been handicapped by the difficulty of removing thoroughly the oxidised products from the reduced sulphur by the fact that the sulphur is lost, and by several other drawbacks. A process has, however, been invented by Claus for the recovery of sulphur as such by burning the H_2S .

Another proposal, which is very old, is that which suggests the reduction of soda by reducing sodium sulphide with iron and metallic oxides. For many reasons success has not been obtained although great energy and large sums of money have been expended. The furnaces are destructively acted upon, more than the equivalent oxide is required for complete reduction of the sulphide, and recovery of the metallic oxide from the sulphide is very costly and always very imperfect. Ellershausen has, however, invented an improved process, which consists in heating peroxide of iron with carbonate of soda, when a substance termed "ferrate of soda" is obtained. Sodium sulphide is converted into the hydrate by filtration through a layer of this "ferrate of soda." The sulphur is retained in an insoluble compound termed ferro-sodium sulphide, and having the formula $Fe_3Na_2S_4$. This compound takes one-sixth of the whole soda.

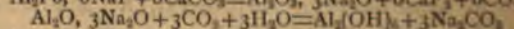
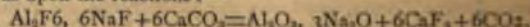
Soda can be obtained from sodium sulphhydrates by decomposition by means of CO_2 , the sulphhydrate being previously formed by ignition of mixtures of the sulphates of sodium, barium or strontium and coal, the product being subsequently lixiviated.

(4) From sodium nitrate.

Although there have been many inventions for the manufacture of hydroxide and carbonate from nitrate, none of them are enabled to compete with the ordinary processes in use, and the only nitrate used for the purpose is that which is converted into "nitre-cake" in the manufacture of nitric acid, the nitre-cake being mixed with the salt treatment to produce salt-cake.

(5) From aluminium sodium fluoride.

Cryolite has the formula $Al_2F_6 \cdot 6NaF$, when pure, but usually it contains about 15 per cent. of impurities. It is found mainly in Greenland, and has a snow-white colour. It is manufactured exclusively by the Pennsylvania Salt Manufacturing Company, the process invented by Professor Thomsen, of Copenhagen. The process depends upon the reactions:—



One hundred parts of finely ground cryolite are mixed with 150 parts of ground chalk. Some of the impure CaF_2 produced in the process previously is added to increase the yield of valuable products and facilitate the decomposition. The mixture is spread into thin layers and heated for about two hours to a red heat, care being taken that there is no fluxing. While hot the mass is transferred to tanks and lixiviated. The solution of sodium aluminate is decomposed by CO_2 obtained by burning limestone, the vessels used being revolving cylinders having agitators. A granular compound of sodium carbon-

and water is obtained and washed for a long time with hot dil 98 per cent. of the carbonate of soda is lixiviated. By the soda solution down, crystals containing not more than 0.25 of impurities are obtained. The residue of the first operation (mostly of CaF_2 with CaCO_3 and CaO , and is used in bottle other manufactures. The residue of the second operation (hydroxide) is dissolved in sulphuric acid, heated until the y is that of treacle, and allowed to cool in moulds, whereupon s. It contains about 20 per cent. of Al_2O_3 . The mother tained in operation of crystallisation are sufficiently pure to be

(To be continued.)

E PASTEUR-CHAMBERLAND FILTER.

majority of cases filters are rather a source of danger than a action. This has been unfortunately proved from time to time outbreaks of epidemics that have been traced directly to had become charged with bacteria, while the report of the on of the British Medical Associations as the result of the experiments of Dr. Sims Woodhead, Director of the ies of the Conjoint Board of the Colleges of Physicians and has shown that for the most part ordinary filters are and often actually increase the dangers of infection. of course, a number of filters competing for public favour, efficiency is well testified to, but at the same time they can to have been put to as extensive or severe tests as the filter. In the French Army fever has been actually out by the aid of these filters, and virtual immunity from the diseases has been secured in places where troops were constantly affected. Such testimony is far more valuable most minute laboratory experiments. Whatever the merits may be, the Pasteur is undoubtedly the original filter of and its reputation is based on a very extensive series of ical results. In Cochinchina, for instance, dysentery, and cholera were always prevalent, particularly in Saigon, the Since the installation of Pasteur filters for the treatment of the oly, not a case of these diseases has occurred either in the elf or the immediate district, while this cessation has been l for two years.



FIG. 1.



FIG. 2.

ateur filter in these experiments arrested the microbes which ough a number of other filtering media such as silitated ous porcelain, &c., simultaneously and under identical on-vestigations at the Laboratory of the Conjoint Board of the f Physicians and Surgeons, the Public Health Laboratories gh and Paris, and elsewhere, have shown that this was to be

These laboratory results have however been confirmed by of the practical use of the filters in 245,000 quarters of the ny for some years, with the consequence that, as successively e reports of the successive War Ministers, wherever these e been applied, typhoid fever and other water-borne diseases eared, even when it has been endemic or epidemic among nding civil population.

acts are the more conclusive, because they are the result of al use of the filter under the most varied conditions in many nd were not dependent on inferences from laboratory investi- which not only precautions impossible in practical use have

to be taken, but also the actual conditions as they occur in nature can- not be always reproduced.

The filters are made in various forms for pressure and without. In Fig. 1. we show a service pressure filter attached to ordinary water supply tap. Fig. 2. shows a household or office form without pressure. The applications of these filters are too numerous to mention, but they are likely to prove particularly useful in the filtration of water used for brewing, making aerated waters and bread, while especially should attention be paid to the filtration of iced water, which is often most dangerous owing to the doubtful sources from which supplies are drawn. In using, the water is poured into a vessel containing three or more Pasteur Filter-Tubes, and filters through the tubes until it has expelled all the air in them, which escapes through the hollow fitting to which they are suspended and the hollow tube leading to the reservoir or vessel for filtered water. When after a few minutes this has occurred, the filtered-water fitting and tube gets full, and acts as a syphon; so that the rate at which the water is delivered is increased according to the length of the delivery tube as well as the height of the water in the filter, and remains sufficiently rapid until all the water is filtered.

THE MANCHESTER SEWAGE SCHEME.

A MEETING of the Mersey and Irwell Joint Committee was held at the Committee's Rooms, Manchester, on Monday, Sir J. T. Hibbert presiding. The report of the Consulting Sub-Committee, submitted by Mr. T. W. Killick, dealt with the position of the Manchester Corporation. It was reported that an agreement had been made between the Corporation of Manchester and the District Council of Audenshaw for the treatment of the Gore brook. The Committee therefore recommended that the summons against the Manchester Corporation should be withdrawn. The effluent from the Holt Town works of the Corporation had been remedied to the satisfaction of the Joint Committee's inspector, and the Committee recommended that the case against the Corporation in respect to this matter should also be withdrawn. In regard to the general sewage scheme for the city, Mr. Meade, the city surveyor, had attended before the Committee and given certain explanations. He said that as he had entered upon his duties only a little over twelve months ago he had to spend some time in looking into the scheme generally before he felt in a position to advise. The amount actually paid up to the 19th ultimo was £556,540, and the total estimated cost of the existing works was £700,000. Roughly speaking, there was about £100,000. worth of work now in course of construction, and it would take at least twelve months to complete it. This estimate was based upon the assumption that no further difficulties would be met with. He had had many difficulties: both with regard to the works themselves and with regard to the contractors. He was anxious to complete the unfinished sections of the main sewers with as little delay as possible, as the whole of the sewage could not be diverted from the rivers and their tributaries until these intercepting sewers were finished. There were four contracts to complete, and the one least advanced would take about twelve months. At Davyhulme there had been eleven tanks at work for the past twelve months, having a capacity of twelve million gallons, and the quantity of sewage now being dealt with per twenty-four hours was 13,600,000 gallons. The estimated future flow from the entire population would be upwards of 24,000,000 gallons. In addition, a costly and elaborate plant for the chemical treatment of the sewage and for sludge pressing was in operation. In addition to the chemical precipitation, provision had been made for filtration through land. Thirty acres had been laid out and underdrained, and were reported by the late resident engineer as complete in June, 1894. He found on taking up his duties in July following that the work had not been satisfactorily executed, and the whole of the subsidiary drains had to be relaid. This work took nine or ten months to complete. The main drains did not show sufficient defects at that time to warrant him in having them relaid; but he regretted to say that after the beds were in use for three months and had given most satisfactory results the main carriers had collapsed, and with one exception the whole of the main carriers would now have to be relaid. The contractor had already faced the difficulty, and was proceeding with the work, which would take two months to complete. He admitted that the thirty acres were not sufficient for the treatment of the sewage of Manchester, but this did not include the whole of their scheme. The Local Government Board had sanctioned the sum of £25,000 for the construction of the first section of artificial filters on the remaining sixty acres of land at Davyhulme not at present dealt with. He had been carefully watching the experiments that were being conducted at Barking by the London County Council, and a valuable report had been issued by Mr. Dibden, chemist to the London County Council. The question now was whether the sewage of Manchester, which enters the works in a practically fresh state, could be treated with as good a result as that at Barking, which reached the works in a putrid condition.

This, however, the chemist was now investigating, and the committee had at the chemist's request sanctioned the construction of two experimental filters in order that they might have a practical demonstration of the treatment of the Manchester sewage on the system proposed by the London County Council. He would not take the responsibility of advising the committee to spend £25,000. until he had satisfied himself that a fair result might be expected.

Mr. Killick said that in the circumstances the sub-committee thought they were justified in recommending that the consideration of all questions dealing with the Corporation of Manchester be adjourned for six months.

Trade Notes.

SERIOUS FIRE AT NEWCASTLE.—Henzell's oil works and Herring's timber yard, Newcastle, were totally destroyed by fire this week, and an immense amount of damage has been done.

A LARGE CARGO OF EXPLOSIVES.—The shipment of explosives this week in Irvine Bay from Messrs. Nobel's factory at Ardeer comprised 3,847 cases of dynamite and gelatines, 85 cases of detonators, 3 cases safety cartridges, and a quantity of the new sporting powder.

CONTRACT FOR REFRIGERATING PLANT.—The tender of the Linde Refrigerating Machinery Company, Limited, has been accepted for the supply of new refrigerating machinery at the Woodside portion of the Birkenhead foreign animals wharf, at a total estimated cost of £9,710. The alteration was very necessary, as the new process is much more in unison with the requirements of the present day, and much more efficient.

NEW CHEMICAL WORKS AT RUNCORN.—For some time rumours have prevailed as to the intention of the Salt Union to establish chemical works at Weston Point, near Runcorn. It is now stated on what may be considered trustworthy authority, that the Union have purchased an extensive tract of land adjoining their salt works at Weston Point, as the site of the proposed chemical manufactory. This new departure will have a very important influence upon the trade of the town.

THE UNITED ASBESTOS CO., LTD., have sent us a nicely got up and excellently illustrated catalogue. Among the special features we note their "Victor" metallic joints, "Salamander" joints, and "Gladiator" packing, while special attention must be drawn to the "Salamander" embossed decorations, an entirely novel adaptation of asbestos for fireproof ceiling and wall construction. These panels are as highly artistic as they are effective.

"THE PHOTOGRAM" is a monthly publication devoted to photographic matters, and is one of the best papers of its kind we have come across. There are several good articles, notably those on photographic printing by machinery and the preparation of photographic Christmas cards. The dual supplement is a splendid specimen of photographic productions, and promises well for the excellency of "Photograms of '95," which will be ready this month, and comprises a collection of the best specimens of the photographic art produced during the year.

PERSONAL.—We learn that Mr. T. Stuart, who has long acted at the works of the United Alkali Co. in the Tyne district, has been appointed by the board of directors to be the general technical manager of the company. This will necessitate Mr. Stuart's departure from the Tyne for Liverpool, where his offices will be. A farewell banquet was given by the local directors to Mr. Stuart at the Central Station Hotel, on Monday night, at which the guest was congratulated on his work on the Tyne and on his important appointment. Mr. Alfred Alhusen was chairman and Mr. J. E. Davidson vice-chairman. Mr. D. J. Russell Duncan, formerly senior partner in the firm of Duncan Bros., engineers, Westminster, and late managing director of Steel Pipe Co., Limited, has commenced business at 80, Boulevard Hausmann, Paris, as agent for the sale of machinery, chemical apparatus and specialties of British manufacture suitable for French trade, also for the sale of inventions protected in France.

Market Reports.

TAR AND AMMONIA PRODUCTS.

The improvement in benzols is well maintained, 90's selling at 1s. 2d. and 50/90's at 1s. 1d. Carbolic acids continue firm at 1s. 7d. for 60% crystals, and 5¼d. for 40% crude. In naphtha generally things are livelier, with crude at 5¼d. and solvent 1s. 2d. Creosote shows little change from the old quotation of 2¼d. Anthracene rules steady, and promises rather better things, 30% A standing at 11¼d. and 30% B 9d. Pitch is firm and in fair demand at 38s. to 38s. 6d., f.o.b. East Coast.

There has been a decided improvement in sulphate of ammonia. Prices generally are firmer, and more has been doing in forward. Improved demand has led to a change for the better in price. B value is £9., London outside makes £8. 17s. 6d., Liverpool £8. 17s. 6d., Hull £8. 16s. 3d., and Leith £8. 17s. 6d.

REPORT ON MANURE MATERIAL.

The market continues very quiet, and there is no improvement in values to be noted. Raisers of 75/80% Florida rock are rather in their ideas, and it is doubtful whether prices recently accepted now do for 1896 steamer shipment. The position of South C River rock, Peace River rock, and Algerian is unchanged. No business has been done in River Plate bones at £4. 2s. 6d. for handy size, and at something under this for a large cargo. C Kurrachee bones offer for shipment at £4. 2s. 6d. per ton, at Liverpool and Hull, but something less would now do if bid. Sales of Bombay bone meal have been made at Liverpool at £4. per ton, which is the closing value. Nitrate of soda remains spot value—refined quality is 7s. 10¼d. per cwt., and Oct.-Nov. cargoes, ordinary quality, would scarcely fetch this price. In miscellaneous material there is nothing special to note.

LIVERPOOL OIL AND COLOUR MARKET.

OILS.—Palm oil is firm, but not in much demand. Benin at £19. 15s. ex quay, and Accra £20. spot. Olive is steady. It is a fairly good business doing, and prices continue steady. Seed, though still quoted at the lower rates recorded last week, much steadier, Liverpool makes in export casks being firm at 22s. per cwt. Cottonseed is steady at 17s. 9d. to 18s. Liverpool refined, while American is unaltered at 17s. 6d. to 18s. per cwt. Castor oil is firm and rather scarce. Good second cutta stand at 2¼d. to 2¾d., the lower price being difficult to get. First pressure French continues to sell at 2¼d. per lb. R dearer as regards common, which is now held for 4s. 3d. per cwt. has been a moderate spot business doing in other grades. It is nothing fresh to report in tallow. Spirits of turpentine moderate demand, holders being firm at 20s. 9d. per cwt. Pet is quiet. American 6d. to 7¼d., and Russian refined 5¼d. per gallon.

COLOURS are steady, without alteration in Ochres: Oxfordshire, common, £10., medium, £12., best, Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. R unchanged. Venetian red, £6. to £10. Cobalt: Prepared 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest Zinc oxide, £22. 10s. to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TYNE

Transactions in chemicals continue to show more of life than long time in the past, and although there is no actual advance note to record, the tendency at the moment is undoubtedly upward. Home orders for soda crystals are more plentiful, and bleaching for Upper Baltic shipment is rather sharply called for, in anticipation of the approaching closing of these ports for the winter. Generally all over are either of moderate dimension or small. Soda of ammonia has improved decidedly within the last ten days, and less on the part of holders is still the rule. Prompt value lies at £8. 15s. and £9. It is said that one seller got £9., but this, if a may have applied to a special lot. Forward delivery, on to mid-1896, has been done in one or two cases at £9. 7s. 6d. Mins and paraffins remain firm as before, and a good bulk of business at the old prices. Fears of any early or immediate general advance now quite dissipated.

Chief prices current are:—Soda crystals, 37s. 6d. nett, soda ash, 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white 48/52°, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. Glasgow; caustic soda, white, 76° £9. 5s., 70/72° £7. 15s., £6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bic powder, £6. 5s. to £7. nett, Tyne; saltcake, 22s. 6d.; borax, refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liv bichromate of potash, 4¼d. nett, for Scotch and English delivery export, 4¼d. nett, f.o.b. Glasgow; bichromate of soda, 3¼d. Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glas

of potash, $4\frac{3}{4}$ d. less 5%, Liverpool; nitrate of soda, 7s. 9d. $\frac{1}{2}$ d.; sulphate of ammonia, £8. 15s. to £8. 18s. 9d. prompt, f.o.b. salammianic, first and second white, £39. and £37. nett, any sulphate of copper, £16. 12s. 6d., less 5%, Liverpool; paraffin ard, $2\frac{1}{2}$ d.; and soft, $1\frac{1}{2}$ d. to $2\frac{1}{2}$ d. per lb.; paraffin wax 120° fined, $2\frac{3}{4}$ d. to $2\frac{1}{4}$ d.; paraffin spirit (naphtha), 8d. per gallon; oil (burning), No. 1 $6\frac{1}{2}$ d., and crystal $6\frac{3}{4}$ d., at works, for buyers (English sales about 1d. lower); ditto (lubricating) 865° to £5.; 885° £5. to £5. 5s. and 890/895° £5. 10s. to £6., Week's imports of sugar at Greenock were *nil*.

THE METAL MARKETS.

IRON, WEDNESDAY.—Pig iron, steady: Scotch warrants closed $3\frac{1}{2}$ d.; Middlesbrough, 38s. 5d. cash, and hematite, 49s. 2d. firm: Chili bars, G. O. B.'s and G. M. B.'s, closed at 1s. 3d. to £46. 16s. 3d. cash, and £46. 18s. 9d. to £47. 3s. 9d. months. Tin, firm: Straits closed at £66. to £66. 10s. cash, 6. 7s. 6d. to £66. 17s. 6d. three months; Australian, £67. 5s.; ingots, £69. 10s. Lead, strong: Spanish, £11. 3s. 9d. to £11. 5s.; English, £11. 5s. to £11. 7s. 6d.; Silesian spelter, ordinary, 3d. Nickel, 1s. 2d. Antimony, £31. 5s. Quicksilver: first £7.; second hands, £6. 19s. *Copper shares*, steady: Cape, $2\frac{1}{4}$; Copiapo, $1\frac{1}{8}$ to $2\frac{1}{8}$; Libiola, $3\frac{1}{2}$ to $3\frac{3}{4}$; Mason and $2\frac{1}{4}$ to 3; Rio Tinto, $19\frac{1}{8}$ to $19\frac{1}{4}$; Tharsis, 5 to $5\frac{1}{4}$. **SGOW, WEDNESDAY.**—Market better, with moderate business. done at 47s. 1d. and 47s. 4d. cash, also at 47s. 4d. and 47s. $6\frac{1}{2}$ d. nth; closing with buyers at 47s. $3\frac{1}{2}$ d. cash, sellers ask 47s. 4d. and done at 38s. $2\frac{1}{2}$ d., 38s. 7d., and 38s. 5d. cash; closing yers at 38s. 5d. cash, sellers ask 38s. 6d. Cumberland hematite 49s. $1\frac{1}{2}$ d. cash, also at 49s. 6d. one month; closing with buyers 2d. cash, sellers ask 49s. 3d. Middlesbrough hematite done at cash, sellers ask 46s. 4d.

MISCELLANEOUS CHEMICAL MARKET.

Business is fairly active in the staple products of the alkali trade, chiefly for export, and values all round are steady. Bleaching $\frac{1}{2}$ d. per ton, f.o.r. makers' works, and £7. 5s. to £7. 10s., f.o.b. sh, 58%, bags, makers' works, £3. 7s. 6d. per ton, both for and forward delivery. Soda crystals quiet at 37s. 6d. per ton. Soda is steady at the prices which have been ruling for some time, viz.: F.o.b. Liverpool, 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 7. 10s.; 60%, £6. 10s. nett per ton, 10-ton lots and upwards. E of potash $4\frac{3}{4}$ d. per lb., and chlorate of soda $6\frac{3}{4}$ d. per lb. are spot values. For sulphate of copper demand is still active, and at £16. 10s. to £16. 15s., f.o.b. Saltcake steady at 22s. 6d. f.o.r. Lancashire and Cheshire. For white powdered arsenic considerable inquiry, and stocks are much reduced—price firm 5s. to £15s. 10s., Garston, etc. Potash, caustic and carbonate, steady, and have a firmer tendency both for early and forward. Brown and grey acetates of lime are still offering at low tendency is also lower in all other descriptions of acetates. Sugar of lead £21. 10s., c.i.f. Brown sugar of lead rather scarce, c.i.f. Yellow prussiate of potash irregular, there being sellers at $7\frac{1}{4}$ d. per lb. Sulphocyanides quiet, and without amendment. Sulphate of iron in generally better demand. Aniline salt are firmer, but without change in quotations. For carbolic crystals and liquid, the demand is small. Ammonia salts have a easier tendency.

TYNE CHEMICAL REPORT.

TUESDAY.
Chemicals there continues to be a fair business doing, and stocks are low. Sulphur scarce, at £3. 17s. 6d. to £4. per ton. Crystals, £2. 5s. per ton, gross weight, locally. 76/77% caustic 9. 10s. per ton. Other quotations as under:—
Sulphur powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton. Caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. per ton; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; do., 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ton; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of 7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; 60° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 5s. per ton, weight; do., 2 cwt. bags, £2. 5s. per ton, nett weight; E of potash, 5d. per lb., less 6%; pearl hardening, 10s. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d.

per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

SALT.—There is no change to report in prices of South Durham salt, which is quoted at 9s. 6d. per ton, f.o.b. Tees.

COALS.—The coal trade is very dull again, and shipments appear to be falling off. To-day's quotations are:—Best Northumbrian steam, 8s. 6d. to 8s. 9d. per ton; second qualities, 7s. 6d. to 7s. 9d. per ton; small steam, 3s. 9d. to 4s. per ton; gas coals, 6s. 9d.; bunker coals, 6s. 6d. to 7s. per ton; coke in better demand, at 14s. 6d. to 15s. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The demand for oils all round is good, and business generally is satisfactory. The principal imports into Hull up to date, compared with the same period a year ago, have been:—Linseed, 438,844 qrs., against 409,769 qrs.; rapeseed, 104,859 qrs., against 102,320 qrs.; cottonseed, 129,607 tons, against 132,188 tons; olive oil, 10,181 casks, against 17,618 casks; rape oil, 6,159 casks, against 6,132 casks; oil cakes, 10,934 tons, against 13,549 tons; tallow, 10,722 cwt., against 19,846 cwt.; turpentine, 14,554 barrels, against 15,133 barrels. Linseed oil steady, at 19s. 9d. naked spot; October-December, 19s. $1\frac{1}{2}$ d.; January-April, 18s. $7\frac{1}{2}$ d.; and May-August, 18s. $7\frac{1}{2}$ d. to 18s. 9d.; boiled and refined from £1. to £1. 10s. per ton extra. Export for the week, 1,500 cwt. Refined cotton oil quiet at 16s. naked spot, and same closing value November-April. Old crude oil on the spot is 14s. to 14s. 3d., and new offers at 14s. 6d.; casks 17s. 6d. and barrels 27s. 6d. per ton extra. Export of refined oil for the week has been 2,660 cwt. Black Sea rape offers at 18s. 6d. Spirits of turpentine unchanged. Olive oil quoted from £33. per ton upwards. Tallow from 24s. 6d. per cwt. Cod oil quiet, from £17. to £20. per ton. Boiled siccative oil from £13. per ton. Liquid soap from £15. New wool oil, £14. per ton. Brown wool grease, £8. per ton.

CAKES continue a steady market, and are in good request. Linseed from £5. to £6. 5s. per ton; cottonseed, £3. 12s. 6d. to £4. 2s. 6d. per ton; Black Sea rape cakes, £2. 7s. 6d. per ton.

PAINTS.—The demand is not equal to the usual summer trade, and slackness of orders is beginning to be experienced. Prices are: Black, yellow, yellow ochre, venetian red, red oxide, and blue paints from £11. per ton. Ready mixed in bulk, 17s.; packed in tins of 1, 2, 4, and 7lb., 24s. 6d. per cwt. Paint remover from 25s. to 30s. per cwt. Imperial black varnish, £5. 10s. per ton. Oak varnish from 5s. 6d. per gallon.

LIVERPOOL MINERAL MARKET.

Our market this week continues firm, with an improved upward tendency. Manganese: Arrivals have been considerably improved, mostly going into direct consumption, but arrivals have affected the price, which is steady. Ground manganese continues in good demand at £6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore is in increased demand at firm but unaltered prices. Chrome ore: Arrivals are *nil*; the demand is strong, and prices are firm as last quoted. Bauxite is brisk at 20s. per ton for first quality, 16s. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. French chalk are still continuing slow, whilst stocks have been heavily drawn upon, and prices are therefore stronger, with the probability of an advance. Plumbago: There is little change to report; arrivals are *nil*, whilst stocks are cleared; consequently prices are stronger, with an upward tendency. Wolfram and scheelite continue steady, with advancing prices. Arsenic is firm. Fuller's earth is unaltered in price at 50s. for lump, and powdered at 75s. to 80s. per ton. Umbers and ochres continue in brisk demand at the last prices. Carbonate of barytes is easy, whilst sulphate is scarce, and bringing full figures. Bog ore: Stocks are beginning to fall, in consequence of the weather interfering with shipments; prices are firm at 20s. to 25s. per ton, c.i.f.

New Companies.

Kingmoor Brick and Tile Co., Ltd.—CAPITAL £10,000., in shares of £5. each. This company has been formed to acquire certain lands at Kingstown, Cumberland, and to carry on the business of brick and tile makers and lime merchants. The subscribers to the memorandum of association are:—R. G. Rogerson, Devonshire-street, Carlisle, C.E.; G. Pearson, Wigton, gentleman; J. P. Anderson, Stanwix, Carlisle.

ham factor; J. H. Pearson, Post Office-court, Carlisle, stock dealer; J. Scott, 25, Fisher-street, Carlisle, solicitor; W. Scott, Kingstown, Carlisle, brick manufacturer; R. R. Graham, 28, Castle-street, Carlisle, gentleman.

Liberian Rubber Syndicate, Ltd.—CAPITAL £30,000, in £1. shares. This company has been formed to acquire land in the Republic of Liberia, and to cultivate and deal in india rubber, indigo,

&c. The subscribers to the memorandum of association are:—Stone, Billiter-square Buildings, E.C., solicitor; W. C. Jol Billiter-square, E.C., merchant; J. Ryan, 10, Ingrave-street, engineer; J. W. Colvin, 2, Maryland-road, Wood Green, C. Sallman, 22, Northampton Park, Canonbury, merchant; Clatworthy, 31, Kennington Park-road, S.E., clerk; S. M. 61, Great Tower-street, E.C., ship agent.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending September 28th.

Acetanilide —			
Holland,	5 pks.	F. Boehm	
"	4	Beresford & Co.	
Acetic Acid —			
Holland,	70 pks.	F. J. Putz & Co.	
"	205	A. & M. Zimmermann	
Acetone —			
Holland,	10 pks.	A. & M. Zimmermann	
Germany,	20	Ryley & Co.	
Ammonium Chloride —			
Holland,	4 pks.	H. Lorenz	
Antimony —			
France,	50 t.	Smith, Sundius & Co.	
Portugal,	50	J. Bamber	
Asbestos —			
France,	45	Girard Frs. & Co.	
Germany,	40	T. H. Lee	
Holland,	15	Phillips & Graves	
Canada,	240	W. Byford	
Holland,	9	Robinson, Roberts & Co.	
Barytes —			
Germany,	69 pks.	Robertson & Co.	
Belgium,	44 cks.	Hemingway & Co.	
Bleaching Soda —			
Germany,	28 c.	H. Lambert	
Boracic Acid —			
Italy,	23 pks.	B. & N. Wf. Co.	
Bromine —			
Germany,	50 pks.	A. & M. Zimmermann	
Camphor —			
Germany,	2 pks.	L. & I. D. Jt. Co.	
China,	102 cs.	Hale & Son	
Japan,	4 tubes	S. Figgis & Co.	
Caoutchouc —			
Rangoon,	46 c.	L. & I. D. Jt. Co.	
France,	21	Girard & Co.	
E. Indies,	29	Kalli Bns.	
Trinidad,	10	R. M. S. P. Co.	
Zanzibar,	36	L. & I. D. Jt. Co.	
E. Indies,	28		
Belize,	2	Belize Estate Co.	
E. Indies,	180	Huttenbach & Co.	
"	878	Ross & Deering	
Mozambique,	14	Prop. Bull Wf.	
Chili,	20	F. Huth & Co.	
France,	37	Hernu, Peron & Co.	
Castor Oil —			
E. Indies,	43 cks.	H. Donaldson	
Italy,	10 cs.	A. F. White & Co.	
France,	15	Lucas & Spencer's Wf. Ld.	
Italy,	20	M. D. Co.	
"	5	B. G. Lennon & Co.	
Caustic Potash —			
Holland,	8 c.	Beresford & Co.	
Chemicals (otherwise undescribed)			
Germany,	62 pks.	T. H. Lee	
"	24	Petri Bns.	
Belgium,	4	Harrower & Co.	
"	8	T. Palmer	
Germany,	3	L. & I. D. Jt. Co.	
"	4	Phillips & Graves	
Germany,	102	A. & M. Zimmermann	
Cream of Tartar —			
Spain,	9 pks.	Fellows, Morton, & Co.	
Holland,	46	Kirkpatrick & Co.	
Portugal,	5	B. & F. Wf. Co.	
France,	15	W. C. Bacon & Co.	
Spain,	6	B. & F. Wf. Co.	
France,	22	"	
Dextrine —			
Germany,	50 pks.	M. D. Co.	
Dyestuffs —			
Cochineal			
Canaries,	14 pks.	W. M. Smith & Sons	
"	20	Sperling & Williams	
France,	5	W. Dutton & Co.	
Cutch			
Rangoon,	100 pks.	H. T. Norton	
"	250	Leach & Co.	
Extracts			
U. States,	72 pks.	J. Owen	
Germany,	60	T. H. Lee	
France,	50	Carey & Sons	
"	137	L. J. Levinstein & Sons	
Italy,	320	Thames S. T. & L. Co.	
Gambier			
E. Indies,	442 pks.	Adamson, Gilfillan & Co.	
"	87	Beresford & Co.	
Indigo			
E. Indies,	14 cts.	Wallace Bns.	
"	12	Croysdale & Co.	
"	26	Forbes, Forbes & Co.	
"	18	R. Von Glehn & Sons	
"	58	L. & I. D. Jt. Co.	
"	81	Parry & Co.	
"	28	Park, Macfadyen & Co.	
"	13	Patry & Pasteur	
Logwood			
Belize,	100 t.	Belize Estate Co.	
Orchella			
Ecuador,	2 pks.	R. Warner & Co.	
Shumac			
Italy,	100 pks.	W. Barter & Co.	
"	100	Fisher, King & Co.	
"	60	L. & N. W. Rly.	
"	70	McDougall & Co.	
"	750	Bonthon	
"	2,000	Beresford & Co.	
Tanner's Bark			
Adelaide,	50 t.	Deering & Robottom	
Belgium,	37	Leach & Co.	
Valonia			
A. Turkey,	10 t.	Anning & Cobb	
N. Russia,	102	Hicks, Nash & Co.	
A. Turkey,	25	A. & W. Nesbitt	
"	5*	Adam Bns.	
Farina —			
Holland,	100 pks.	J. Barber & Co.	
Germany,	100	W. G. Jacobs	
Glucose —			
U. States,	250 pks. 250 c.	L. Norman & Co., Ld.	
"	131	R. G. Hall & Co.	
"	500	500	G. Clark & Son
"	102	602	Williams & Torrey & Co.
"	250	250	Thames S. T. & L. Co.
"	250	250	Robinson Bns.
Germany,	14	98	M. D. Co.
U. States,	1,000	5,970	J. Knill & Co.
Holland,	50	50	Prop. Sun Wf.
Glue —			
"	4637	"	"
Iron Sulphide —			
Holland,	10 pks.	J. Barber & Co.	
Lead Acetate —			
Germany,	14 pks.	F. Boehm	
Magnesia —			
Holland,	14 pks.	Beresford & Co.	
Manganese —			
Australia,	268 t.	Union L. Co., Ld.	
Manure —			
Germany,	10 t.	Perkins & Homer	
Methyl Alcohol —			
Germany,	15 dms.	Stein Bns.	
Belgium,	16 cks.	"	
Mica —			
Ceylon,	£310	E. Davis & Co.	
E. Indies,	20	L. & I. D. Jt. Co.	
Molasses —			
U. States,	1,000 cks. 5,970 c.	Prop. Sun Wf.	
Ochre —			
Holland,	11 pks.	Phillips & Graves	
France,	178 brls.	W. Harrison & Co.	
Paraffin Wax —			
U. States,	2,506 brls.	Anglo-Am. Oil Co.	
Phosphate Rock —			
U. States,	1,000 t.	Anglo-Continental Guano Works	
France,	210	A. Hunter & Co.	
Pitch —			
Germany,	65 bls.	C. B. Leighton	
Plumbago —			
Germany,	17 cks.	B. Gallaway	
"	22	Brown & Elmslie	
Ceylon,	238 brls.	R. G. Hall & Co.	
Potash —			
France,	58 c.	Petri Bns.	
Potassium Bicarbonate —			
Holland,	50 c.	A. & M. Zimmermann	
Potassium Carbonate —			
France,	50 c.	A. J. Smith	
Belgium,	50	Petri Bns.	
"	448	Forwood Bns. & Co.	
Germany,	80	H. Lambert	
France,	30	J. A. Reid	
Potassium Chlorate —			
Holland,	17 pks.	W. G. Taylor & Co.	
Potassium Cyanide —			
Holland,	45 pks.	F. Boehm	
Potassium Hydrate —			
France,	8 pks.	Spies Bns. & Co.	
Potassium Sulphate —			
Canada,	10 pks.	Union L. Co.	
Pumice Stone —			
Italy,	12 t.	Magee, Taylor & Co.	
Pyrites —			
Spain,	1,984 t.	C. Tennant, Sons & Co.	
Quicksilver —			
Italy,	500 brls.	L. & I. D. Jt. Co.	
"	100	H. Bath & Son	
Rosin —			
Belgium,	100 brls.	Perkins & Homer	
France,	20	Lucas & Spencer's Wf. Co.	
Saltpetre —			
Germany,	42 cks.	J. Hall & Son	
E. Indies,	750	Lucas & Spencer's Wf. Co.	
Germany,	20	J. Barber & Co.	
E. Indies,	261 bgs.	Devitt & Hett	
Holland,	20	P. Hecker & Co.	
Soapstone —			
Germany,	£12	Drolenvaux & Bremner	
Sydney,	20	L. & I. D. Jt. Co.	
Sodium Hyposulphite —			
Holland,	116 pks.	Beresford & Co.	
Germany,	20	A. & M. Zimmermann	
Sodium Oxalate —			
Holland,	28 pks.	F. W. Berk & Co.	
Sodium Sulphate —			
Belgium,	10 pks.	H. Wallace & Co.	
Starch —			
Germany,	200 pks.	L. S.	
Holland,	20	J. B.	
Belgium,	50	Arnot	
Holland,	68	Little	
Belgium,	40	T. Ronal	
Holland,	1,240	V.	
"	140	Phillips	
"	183	"	
Belgium,	30	L.	
"	80	Sawer	
"	190	F. Clay	
Germany,	2,600	H.	
"	332	Se	
"	104	Phillips	
Belgium,	336	"	
"	90	A. B. C.	
Holland,	90	"	
"	130	Little	
Stearine —			
France,	50 bgs.	Beck	
"	100	Walbaum	
Holland,	64	H. F.	
Belgium,	138	"	
Sulphur —			
Italy,	30 t.	C. Tem	
Sulphur Chloride —			
Holland,	20 pks.	Typ	
Talc —			
France,	£40	Blackwell, S.	
Tar —			
N. Russia,	50 brls.	Linck	
Tartaric Acid —			
Holland,	24	Kirkpatrick	
Germany,	12	B. & F.	
"	26	F. C. Dev	
Turpentine —			
N. Russia,	106 brls.	C. B. I.	
Ultramarine —			
Belgium,	10 brls.	W. Harris	
"	7 pks.	Leach	
Holland,	20 cks.	Thames L. Co.	
France,	20	Hernu, Peron	
Varnish —			
France,	26 pks.	Stobbs	
"	1	Wilton	
White Lead —			
Germany,	36 cks.	Landall	
Belgium,	16	J. I. M.	
Holland,	10	A. & M.	
"	10	Landall	
Whiting —			
France,	£100	J. E. de	
Wood Pulp —			
Sweden,	920 pks.	W.	
"	80	H. Johnson	
"	1,096	Christ	
Norway,	1,000	More	
Germany,	350	A. C. S.	
Sweden,	556	& H.	
"	508	Tough	
Norway,	200	C. S. L.	
"	495	W. C. S.	
"	1,417	W. C. S.	
Sweden,	240	Galt	
Norway,	3,410	Tough	
Zinc Oxide —			
Holland,	50 cks.	Pips. Dev	
"	100 brls.	M. A.	

ERPOOL.

ending September 26th.

123 cs. Gough & Crosthwaite

1 cs. J. Hague

476 bgs. Hainsworth Watson

597

50 bgs.

Lime—

9,407 bgs.

30 sks. T. Wilson

830 pks. A. S. Henry & Co.

557

30 bls. J. H. Schroeder & Co.

6 W. Brandts, Sons & Co.

br s. J. J. Mack & Son

s. German Bank

25. Kolp & Co.

bls. 50 bxs.

100 cks.

42 E. M. Schweich

30 C. Shroder

4

75 ps. Ackerley & Son

2,059 logs G. H. Muller & Co.

520 Gruning & Co.

1,029 W. H. Thompson

qty. Rosing Brs. & Co.

4,411 bgs.

600 A. Ewart & Co.

1,400 pockets

1,177 bgs.

916 kils.

90 bgs.

100

525 bls.

1 cs. Colby & Co.

200 G. E. Bartols & Co.

10 cks.

80 bls.

Earth—

134 bgs.

ack—

35 bls.

1 crt.

2 cks.

44 cks.

179 bls.

10 cs. Leach & Co.

scale—

643 bls. Thompson & Bedford

200

Pitch—

Marseilles, 6 brls.

Potash—

Montreal, 25 bls.

Pyrites—

Huelva, 3,315 t. Matheson & Co.

Pumice Stone—

Marseilles, 1 ck.

Rosin—

New York, 2,440 brls.

Boston, 3,869

Baltimore, 750

Salt—

Rotterdam, 1 ck.

Saltpetre—

Calcutta, 848 bgs. Ralli B. S.

234

Soap—

Smyrna, 40 cs.

Jaffa, 6 bbls.

Boston, 5 Boots Pine Drug Co., Ltd.

Rotterdam, 2

New York, 50 bxs.

Antwerp, 29

Marseilles, 29

Sodium Nitrate—

Iquique, 10,456 bgs.

Starch—

New York, 470 bgs.

Rotterdam, 200 cs.

Antwerp, 36 J. T. Fletcher & Co.

Stearine—

Antwerp, 97 bgs.

Talc—

Genoa, 10 bgs.

Tallow—

San Nicolas, 472 hf.-pps. T. Bracht & Co.

Rotterdam, 1 bx.

B. Ayres, 22 brls.

Tartar—

Bordeaux, 10 cks.

Tartaric Acid—

Bordeaux, 8 cks.

Rotterdam, 3

Treacle—

New York, 1,000 brls. 4 cs.

Hamburg, 92 cks.

Ultramarine—

Hamburg, 1 ck.

Rotterdam, 1

Varnish—

Boston, 2 brls. 52 cs. W. H. Staynes & Smith

Waste Salt—

Hamburg, 1,016 bgs.

White Lead—

Rotterdam, 1 cs. 55 cks.

Antwerp, 11

Wood Pulp—

Boston, 637 bbls.

Rotterdam, 244

Zinc Oxide—

Rotterdam, 100 cks.

Antwerp, 10 brls.

Zinc Skimmings—

New York, 11 cks. 8 brls.

Zinc White—

Rotterdam, 8 cks.

Dextrine—

Stettin, 145 bgs. J. Laing, Sons, & Co.

91

Dyestuffs—

Allizarine

Rotterdam, 18 cks.

Extracts

Rotterdam, 25 cks.

Antwerp, 6 1 cs.

Treport, 3

Fustic

Punta Arenas, 779½ t.

Farina—

Hamburg, 30 bgs.

Stettin, 259 J. Laing, Sons, & Co.

Gelatine—

Hamburg, 1 cs.

Glue—

Rotterdam, 63 cks. 1 bskt.

Stettin, 14 Albion Chemical Co.

60 bgs.

Lead Acetate—

Rotterdam, 28 cks.

Limestone—

Antwerp, 2 crts.

Manganese—

Hamburg, 50 bgs.

Pitch—

Rotterdam, 13 cks.

Potash—

Treport, 18 cks.

Sodium Nitrate—

Rotterdam, 7 cks.

Sodium Prussiate—

Antwerp, 1 ck.

Sodium Sulphate—

Rotterdam, 1 brl.

Starch—

Rotterdam, 70 cs.

Hamburg, 156

Ghent, 80 J. T. Fletcher & Co.

Sulphur—

Hamburg, 1 cs.

Tannic Acid—

Hamburg, 6 cks.

Tartaric Acid—

Rotterdam, 2 cks. 10 kgs.

Varnish—

Ghent, 15 brls.

Waste Salt—

Hamburg, qty.

Wood Pulp—

Gothenburg, 1,722 bls. M'chester Ship Canal Co.

800 Henderson, Craig, & Co.

80

Gefle, 71,188

Drammen, 5,650

Christiania, 5,148

Soderham, 5,601

Zinc Ashes—

Rotterdam, 16 cks.

Zinc Oxide—

Rotterdam, 50 brls.

Zinc Sulphate—

Rotterdam, 10 brls.

Zinc White—

Rotterdam, 10 cks.

Cod Oil—

Bergen, 25 brls. Wilson, Sons, & Co., Ltd.

Hamburg, 10 "

Colours—

New York, 3 pks. Wilson, Sons, & Co., Ltd.

Rotterdam, 8 cks. "

55 7 Hutchinson & Son

Hamburg, 1 cs. Wilson, Sons, & Co., Ltd.

Ghent, 4 cks. "

Antwerp, 35 4 brls. "

Dunkirk, 67 50 "

Rotterdam, 17 cks. 9 cs. W. & C. L. Ringrose

Hamburg, 11 cs. G. Malcolm & Son

Colours and Alizarine—

Rotterdam, 92 pks. W. & C. L. Ringrose

Cottonseed Oil—

Hamburg, 1 brl. W. Gray & Sons

Cryolite—

Copenhagen, 3 cks. Wilson, Sons, & Co., Ltd.

Dyestuffs—

Allizarine

Rotterdam, 16 cks. W. & C. L. Ringrose

Indigo

Rotterdam, 1 cht. J. Pyefinch & Co.

Sumac

Trieste, 42 bgs. 80 bls. Wilson, Sons, & Co., Ltd.

Palermo, 1,410 "

Valonia

Trieste, 436 bgs. Wilson, Sons, & Co., Ltd.

Smyrna, 208 t.

Farina—

Ghent, 171 pks. Wilson, Sons, & Co., Ltd.

Stettin, 251 bgs. "

Antwerp, 20 "

125 "

Glucose—

New York, 1,100 brls. Wilson, Sons, & Co., Ltd.

Stettin, 25 cks. "

800 bgs. "

Glue—

Hamburg, 3 bls. Wilson, Sons, & Co., Ltd.

Antwerp, 1 Bailey & Leatham

Stettin, 90 bgs. Wilson, Sons, & Co., Ltd.

Dunkirk, 63 cks. "

Guano—

Bergen, 200 bgs. Wilson, Sons, & Co., Ltd.

Kaolin—

Amsterdam, 20 cks. J. Good & Sons

Phosphorus—

New York, 16 cs. Wilson, Sons, & Co., Ltd.

Pitch—

Antwerp, 1 ck. Bailey & Leatham

Potash—

Antwerp, 1 dm. Bailey & Leatham

Dunkirk, 18 cks. Wilson, Sons, & Co., Ltd.

Pumice Stone—

Messina, 558 bgs. Wilson, Sons, & Co., Ltd.

Quicksilver—

Hamburg, 2 btl. Wilson, Sons, & Co., Ltd.

Saltpetre—

Antwerp, 135 bgs.

Soap—

New York, 100 bxs. Wilson, Sons, & Co., Ltd.

Trieste, 5 cs. "

Molfetta, 250 bxs. "

Bari, 3 cs. "

Sodium Nitrate—

Hamburg, 150 kgs. Wilson, Sons, & Co., Ltd.

Starch—

Antwerp, 182 cs. Bailey & Leatham

Bremen, 1,770 Veltmann & Co.

Amsterdam, 10 J. Good & Sons

Stearine — New York, 7 trcs. Wilson, Sons, & Co., Ld.	
Antwerp, 70 bgs. "	
Sulphur — Catania, 1,131 bgs. Wilson, Sons, & Co., Ld.	
" 67 brls. 25 t.	
Tar — Uleaborg, 1,419 brls. 100 hf.-brls. J. Good & Sons	
Gamla Carleby, 947 401 hf.-brls.	
Tartaric Acid — Rotterdam, 5 cks. Hutchinson & Son	
Treacle — New York, 1,575 brls. Wilson, Sons, & Co., Ld.	
Turpentine — Libau, 35 cks.	
Ultramarine — Amsterdam, 4 cks. J. Good & Sons	
Rotterdam, 12 cs. Hutchinson & Son	
Yarnish — New York, 2 brls. Wilson, Sons, & Co., Ld.	
White Lead — Rotterdam, 63 cks. W. & C. L. Ringrose	
Antwerp, 27 Bailey & Leatham	
Amsterdam, 25 J. Good & Sons	
Wolfram — Hamburg, 10 cs. Wilson, Sons, & Co., Ld.	
Wood Pulp — New York, 165 bls. Wilson, Sons, & Co., Ld.	
Helsingfors, 160 J. Good & Sons	
" 18 Furley & Co.	
" 248	
Zinc Oxide — Antwerp, 5 cks. Bailey & Leatham	
Rotterdam, 13 W. & C. L. Ringrose	

GLASGOW.

Week ending October 3rd.

Acetate of Lime — New York, 576 bgs.	
Albumen — Hamburg, 7 cs.	
Alkali — Rotterdam, 15 dms. J. Rankine & Son	
Aniline — Rotterdam, 3 cks. 8 cs. J. Rankine & Son	
Aniline Colours — Amsterdam, 1 kg.	

Arachide Oil — Rotterdam, 1 ck. J. Rankine & Son	
Barium Sulphate — Hamburg, 226 cks. 955 bgs.	
Barytes — Rotterdam, 84 cks. 40 pkgs. J. Rankine & Son	
Boracic Acid — Leghorn, 20 cks.	
Castor Oil — Marseilles, 103 brls.	
Chrome Alum — Rotterdam, 12 cks. J. Rankine & Son	
Colours — Rotterdam, 3 cks. 1 cs. 41 pkgs. J. Rankine & Son	
Hamburg, 2	
Dyestuffs — Alizarine Rotterdam, 67 cks. 1 cs. 37 pkgs. J. Rankine & Son	
Guteh New York, 8 bks.	
Extracts New York, 25 bks.	
Rouen, 1 cs.	
Baltimore, 20 brls.	
Madder Rotterdam, 2 cks. J. Rankine & Son	
Marseilles, 10	
Farina — Rotterdam, 909 bgs. J. Rankine & Son	
Glucose — Baltimore, 100 brls.	
New York, 209	
Hamburg, 26 cks.	
Glue — Hamburg, 5 bgs. 20 bukts. J. Rankine & Son	
Rotterdam, 40	
Rouen, 83 cks.	
Lead Acetate — Hamburg, 15 cks.	
Ochre — Rouen, 22 cks.	
Painters' Colours — Antwerp, 2 cks.	
Potash — Rotterdam, 31 cks. J. Rankine & Son	
Hamburg, 63	
Pumice Stone — Leghorn, 30 bgs.	
Pyrites — Huelva, 2,042 t. Tharsis Co.	
Rosin — New York, 2,503 brls.	
Rosin Oil — New York, 56 brls.	

Soap — New York, 925 brls. Hamburg, 1 bx. 1 cs.	
Starch — New York, 100 aks. Jas. Osborne & Co.	
" 990 bxs. 125 bxs. 108 cs.	
Ghent, "	
Tallow — New York, 48 tcs.	
Treacle — Philadelphia, 750 brls. Waddell & Bryson	
" 500	
Yarnish — New York, 5 brls. 1 bx.	
Waste Salt — Hamburg, 557 cks.	
White Lead — Antwerp, 5 cks.	
Wood Pulp — Skien, 2,980 bls.	
Christiania, 666	
Zinc Oxide — New York, 140 brls.	
Antwerp, 25 cks.	
Zinc White — Rotterdam, 200 cks. J. Rankine & Son	

TYNE.

Week ending September 28th.

Barium Chloride — Rotterdam, 300 bgs. Tyne S. S. Co.	
Hamburg, 250 "	
Barytes — Antwerp, 625 bgs. Tyne S. S. Co.	
Cod Oil — Stavanger, 5 brls.	
Colours — Hamburg, 1 ck. 1 cs. Tyne S. S. Co.	
Antwerp, 1 brl. "	
Glue — Antwerp, 1 ck. Tyne S. S. Co.	
Limestone — Antwerp, 4 crts. Tyne S. S. Co.	
Pyrites — Huelva, 3,397 t. Scott Bros.	
Saltpetre — Hamburg, 20 cks. Tyne S. S. Co.	
Soap — Rotterdam, 2 cs. Tyne S. S. Co.	
Starch — Rotterdam, 144 cs. Tyne S. S. Co.	
Stearine — Antwerp, 16 bgs. Tyne S. S. Co.	
Yarnish — Antwerp, 5 kgs. Tyne S. S. Co.	

Wood Pulp — Gothenburg, 160 bls.	
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GOOLE.

Week ending September 25

Acetic Acid — Rotterdam, 16 balloons	
Alkali — Calais, 3 cks.	
Antimony — Boulogne, 1 ck.	
Caoutchouc — Boulogne, 1 ck.	
Colours — Hamburg, 59 cks.	
Ghent, 4 1 cs.	
Dyestuffs — Alizarine Rotterdam, 103 brls.	
Extracts Rouen, 10 cks.	
Logwood Belize, 435 t.	
Dyestuffs (otherwise undec) Rotterdam, 49 cks. 3 cs.	
Boulogne, 25 2 35 t.	
Farina — Hamburg, 600 bgs.	
Delfsryhl, 3,655	
Glucose — Calais, 100 bgs.	
Phosphate — Ghent, 816 bgs.	
Potash — Calais, 33 dms.	
Dunkirk, 30	
Saltpetre — Hamburg, 42 cks.	
Waste Salt — Hamburg, 130 t.	
Zinc Sulphate — Rotterdam, 5 brls.	

GRIMSBY.

Week ending September 21

Caoutchouc — Hamburg, 1 ck. 5 pks.	
Chemicals (otherwise undec) Antwerp, 44 cs. 6 pks.	
Colours — Antwerp, 40 cks. 81 pks.	
Plumbago — Hamburg, 1 ck.	
Starch — Antwerp, 30 cs.	

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.							
Week ending October 2nd.							
Alkali — Algoa Bay, 5 c. 67				Arsenic — Brisbane, 1 t. £16			
Alum — Salonica, 10 t. 6 c. £69				Kurrachee, 10 6 brls. 15			
Ammonia — Libau, 1 t. 5 c. £13				Melbourne, 10 160			
B. Ayres, 1 t. 11 52				Barium Nitrate — Boston, 10 c. 49			
Melbourne, 10 cs. 1 ck. 34				Boracic Acid — Melbourne, 7 cks. £78			
Ammonium Carbonate — Libau, 9 t. 4 c. £10				Borax — Rockhampton, 2 t. 15 c. £55			
New York, 9 t. 310				E. London, 50 kgs. 24 cs. 156			
Bremen, 10 cks. 23				Melbourne, 20 24			
Ammonium Chloride — E. London, 1 ck. £11				Rotterdam, 1 ck. 15			
Hamburg, 9 60				Cartagena, 12 13			
Treblonde, 1 t. 37				Carbonic Acid Gas — Jersey, 35 cyldrs. £13			
B. Ayres, 5 c. 11				Caustic Soda — Natal, 11 c. £18			
Bagdad, 10 37				Fremantle, 9 7			
Genoa, 5 14 114				Cape Town, 1 t. 11 45			
Ammonium Sulphate — Mauritius, 50 t. £300				Sydney, 5 23			
Hamburg, 260 2,268				Philadelphia, 29 213			
Natal, 8 10				Chemicals (otherwise undec.) — Brisbane, 10 c. £38			
Ghent, 5 45				Montreal, 1 kg. 4 cks. 19			
				Rosario, 5 63			
				M. Video, 2 cs. 20 drs. 37			
				Rotterdam, 4 t. 9 60			
				Rockhampton, 11 2 10			
				Bombay, 9 cs. 11 56			
				B. Ayres, 5 102			
				Dunkirk, 4 18 60			
				Citric Acid — Antwerp, 4 cks. £122			
				Brussels, 5 c. 5 kgs. 61			
				Genoa, 1 t. 127			
				Hamburg, 1 35			
				Auckland, 2 15			
				Oporto, 2 13			
				Libau, 3 17			
				Melbourne, 1 121			
				Coal Products — Alizarine St. Petersburg, 9 cs. £476			
				Aniline Dyes Dunedin, 1 cs. £13			
				Aniline Oil New York, 18 drs. £480			
				Aniline Salts New York, 104 cks. £490			
				Anthracene Rotterdam, 56 cks. £320			
				Gothenburg, 250 127			
				Dusseldorf, 109 480			
				Benzol Hamburg, 100 runs. £222			
				Rotterdam, 30 pms. 17 drs.			
				Carbolic Acid — Hamburg, 40 cks. 8 cans			
				Antwerp, 4 crts.			
				Boca, 26			
				Marseilles, 147			
				Rotterdam, 20			
				St. Vallery, 6 pks.			
				New York, 10 cks.			
				Coal Tar Dyes Boston, 10 cks.			
				Lyttelton, 5 1 cs.			
				Bombay, 9			
				Dunedin, 9			
				Oreosote Cape Town, 105 drs.			
				New York, 400 brls.			
				Newport News, 750			
				Naphtha Trepot, 43 cks.			
				Naphthaline Hamburg, 6 cks.			
				New York, 50 bgs.			
				Paraffin Wax Larache, 30 cs.			
				Pitch Abo, 60 t.			
				Newport News, 200 brls.			
				New York, 378 bgs.			

ong,	300 cks.	183
ria,	400	515
	750	225
	6 cks.	£12
ay,	132 drs.	14
	20 brls.	21
	500	285
r, 330 pks.	550	44
tr,	10	12
me,	10	13
n,	10	10
Dil	250 cks.	£165
rg,	25 drs.	10
me,		
ol	1 ck.	£10
	32	107
roducts (otherwise under.)	20 drs.	£13
me,	2 cs.	24
ay,	200	39
own,	260	14
Sulphate—		
c,	1 t.	£16
e,	5	75
of Tartar		
me,	3 t.	£243
ic,	3	270
	2	10
ou,	3	13
me,	1	114
me,	1	76
etants—		
z,	20 cks 55 kgs.	£122
y,	100 drs. 1 t.	3 c.
don,	62 pks.	44
t,	25 cs.	49
oupe,	830 t.	£9,130
ulphate—		
me,	11 t.	17 c.
ium Carbonate—		
me,	4 t.	£90
e—		
a,	100 t.	1 c.
la,	120	1
	49	15
	119	8
loes,	5	13
rp,	120	456
se,	12	10
ca,	5	52
ux,	150	445
	119	14
Acid—		
ium Chlorate—	60 carboys	£70
ork,	2 t.	15 c.
ium Cyanide—		
Bay,	1 t.	4 c.
ium Nitrate—	25 cs.	£514
	20 kgs.	£23
ium Oxalate—	7 cks.	£25
ium Prussiate—	1 t.	3 c.
ium Sulphate—	1 t.	£12
etons—		
rt,	7 cks.	£25
kre—		
ampton,	2 t.	£46
gton,	10 c.	13
	1	8
rdam,	2	51
e Janeiro,	10	14
t,	12	17
t,	6	13
of Soda & Salts of Lime—		
do,	10 cs.	10 kgs.
Dip—		
urke,	5 t.	1 c.
ry,	10 cks.	14
ita,	60 drs.	37
res,	110	5
ane,	1 t.	2 c.
lad,	12	5
Crystals—		
hai,	2 t.	14 c.
ica,	4	1
attle,	30	66
n Bicarbonate—		
rt,	10 c.	£8
Bay,	1 t.	1
to,	1	10
me,	1	19
ium Nitrate—		
o,	1 t.	£23

Sulphur—

Natal,	10 c.	40 cs.	£18
Cape Town,	2 t.		30
Melbourne,	10		93
Sulphuric Acid—			
Algoa Bay,	8 t.	15 c.	£35
Tartaric Acid—			
Libau,	2 c.		£11
Brisbane,	10		50
Adelaide,	1 t.	10	164
Cape Town,	2		11
Sydney,	3	15 kgs.	401
Melbourne,	2	15	382

LIVERPOOL.

Week ending October 2nd.

Alum—			
Singapore,	2 t.	5 c.	1 q.
Lisbon,	5	3	23
Valparaiso,	3	10	18
Montreal,	14	5	1
Calcutta,	17	19	2
Havana,	6		20
Volo,	1	12	7
Tripoli,	19	3	5
Ammonia Salts—			
New York,	5 t.	15 c.	£100
Ammonium Carbonate—			
Trieste,	10 c.		£16
Rotterdam,	17	2 q.	30
Ammonium Chloride—			
Barcelona,	2 t.	1 c.	£51
Genoa,	2		49
Ibrail,	2	3	5
Alexandria,	2	1	75
New York,	5		135
Constantinople,	1		36
Stettin,	10		20
Galatz,	14	3 q.	28
Piræus,	4		7
Philadelphia,	19	10	3
Ammonium Sulphate—			
Barcelona,	20 t.	9 c.	£195
Gd. Canary,	3		29
Montreal,	12	6	3 q.
Valencia,	49	17	1
Nantes,	30		345
New York,	49	5	475
Newport News,	51	4	492
St. Petersburg,	2	11	25
San Francisco,	102	18	975
Genoa,	20	3	192
Leghorn,	25	10	306
Antimony—			
Montreal,		6 c.	
Arsenic—			
Calcutta,	5 t.		£80
Asbestos—			
La Guayra,	1 pkge.		
Tientsin,	2 cs.		
Barytes—			
San Francisco,	50 brls.		
Bleaching Powder—			
Baltimore,	214 cks.		
Boston,	496		
Chalcis,	3		
Montreal,		10 brls.	
Nantes,	30		
New York,	305		
Rio de Janeiro,	10 cs.		
Boracic Acid—			
Rotterdam,	8 t.	13 c.	£260
Hamburg,	5	2	3 q.
Boston,	3	10	114
ORAX—			
Genoa,		19 c.	3 q.
Antwerp,	16 t.	3	310
Wellington, N.Z.,		5	7
Hamburg,	23	11	1
Rotterdam,	6	10	133
Barcelona,	3		63
Calcined Magnesia—			
St. Petersburg,	4 t.	19 c.	1 q.
Calcium—			
Natal,	2 t.	3 c.	£5
New York,	9	19	20
Odessa,	9	19	24
Adelaide,	2	2	5
Sydney,	30	17	69
Carbolic Acid—			
Hamburg,	1 t.	2 c.	£57
Leghorn,		9	3 q.
Bilbao,		2	7
Philadelphia,	3	5	140
New York,	3	5	212
Hong Kong,	1	2	11
Castor Oil—			
Gd. Bassam,	10 cs.		
Old Calabar,	3		

Caustic Potash—

Melbourne,	3 t.	12 c.	£126
Sydney,	1	4	47
Caustic Soda—			
Acajutla,	84 dms.		
Alexandria,	10		
Alicante,	30		
Amsterdam,	75		
Bahia,	40		
Baltimore,	478		
Barcelona,	382		
Bari,	10		
Boston,	25	85 brls.	
Cadiz,	10		
Corfu,	30		
Fiume,	17		
Hamburg,	15	3	
Hiogo,	250		
Ibrail,	30		
Kurrachee,	10		
Melbourne,	10	45	
Milwaukee,	200		
M. Video,	226		
Montreal,	127		
Nagasaki,	100		
Naples,	31		
New York,	400		
Oporto,	32		
Padang,	100		
Palermo,	10		
Paris,	116		
Philadelphia,	560	500 bgs.	
Quebec,	100		
Rangoon,	10		
Rotterdam,	63		
St. Petersburg,	50		
Santander,	20		
Savannah,	24		
Seville,	194		
Sydney, N.S.W.,	84	45	
Talcabuan,	50		
Tampico,	14		
Valencia,	30		
Vancouver,	10		
Victoria, B.C.,	60		
Vigo,	4		
Chemicals (otherwise undescribed)			
Ferrol,	17 c.		£15
Odessa,	2 t.	19	98
Philadelphia,	13	6	438
Bombay,	7	10	802
Rangoon,	1	1	40
Hamburg,	1	9	53
Constantinople,	3	10	2 q.
Newfairwater,	1	4	44
Tunis,	3		5
China Clay—			
Boston,	50 t.		
Naples,	20		
New York,	20 cks.		
Philadelphia,	150		
Rio de Janeiro,	16		
Chloride of Lime—			
Cape Town,	20 t.		£18
Chrome Ore—			
Antwerp,	1½ t.		
Coal Products—			
Aniline Oil			
Newport News,	5 dms.		
St. Nazaire	5		
Aniline Salts			
Boston,	49 cs.		
Montreal,	16		
Pitch			
Bathurst,	10 brls.		
Chanterey,	791 t.		
Tar			
Galatz,	170 brls.		
St. John's, Nfld.,	20	20 hf.-brls.	20 tcs.
Santander,	6 cks.		
Tar Salts			
Barcelona,	3 cks.		
New York,	3		
Coal Tar Products (otherwise undescribed)—			
New York,	44 cks.		
Copperas—			
Adelaide,	3 t.	16 c.	£7
Rio de Janeiro,	2	15	2 q.
Halifax,	1	18	4
Varna,	5	3	10
Copper Sulphate—			
Salonica,	10 c.	2 q.	£8
Montreal,	1 t.	5	19
Rio de Janeiro,	9	16	159
Havre,	1		17
Marseilles,	10	3	168
Nantes,	17	2	222
Rouen,	3	7	55
Sydney,	1	7	24

Bilbao,	13	19	1	240
Marin,		10		9
Santos,	5			88
Galatz,	1			17
Genoa,	75			1,105
Gelatine—				
Boston,	100 bks.			
New York,	365 lbs.			
Glucose—				
Bombay,	32 cks.			
Glue—				
New York,	50 bgs.			
Seville,	1 cs.			
Iron Oxide—				
Ghent,	30 t.			£162
Giljon,	2	12 c.	1 q.	15
Lime—				
Akassa,	10 cks.			
Magnesium Chloride—				
Paris,	9 t.	18 c.		£74
Bombay,	4	1		9
Magnesium Sulphate—				
Montreal,	50 kgs.			
Rosario,	8 cks.			
Manure—				
Rocheport,	410 t.	1 c.		£1,244
Havre,	335	4		1,775
Las Palmas,	5	14		50
Muriatic Acid—				
Pernambuco,	8 c.			£8
Naphthylamine—				
Barcelona,	2 cks.			
Ochre—				
E. London,	125 brls.			
Santander,	10			
Paint—				
Accra,	1 brl.			
Alexandria,	20 kgs.			
Axim,			3 dms.	
Bahia,	15			
Barranquilla,	70			
B. Ayres,	10 cks.			8
Caldera,				
C. C. Castle,	64			55
Callao,				
Cape Haitien,	2			
Carbonear, Nfld.,	1	26		
Colombo,	1			
Half Jack,	1			
Greytown,	2 cs.			
Harbor Grace,				
Nfld.,	3	16		
Iceland,	4			
Iquitos,	3			
Lagos,			60	
Las Palmas,			50	
Manaos,	21			
Nagasaki,			81	
N. York,	10 cs.	7		
Port Louis,	12			
Quebec,	1			
St. John's, Nfld.,	1			97 pkgs.
Santiago,	4			
Sierra Leone,		80	10	
Smyrna,		70		
Sydney, N.S.W.,			135	
Painters' Colours—				
Ancona,	6 cks.		10 brls.	
Bahia,	10 cs.		2 kgs.	19
Baltimore,	75			
B. Ayres,	5			89
Calcutta,	20			
Cape Town,	7			
Ceara,	31			
Danzig,	200 bgs.			
Galatz,	185			
Gibraltar,	19			5 dms.
Hamburg,	100			84 brls.
Havana,	2 tcs.			2 cks.
Hong Kong,	10			
Iquique,	141 pkgs.			5 dms.
Manilla,	200			
Manaos,	2	37		
Matadi,	29			
Melbourne,	8			
New York,	1 hd.	48		
Para,	1 cs.	27 tcs.	98	9 brls.
Philadelphia,	6 cks.			
Quebec,	1 bx.			
Rangoon,	1 cs.			
St. John's, Nfld.,	11			
Salonica,	3 tcs.			
San Juan,	180			4
Santos,	1 cs.			
Valparaiso,	50			
Paraffin Wax—				
Alexandria,	10 bxs.			
Phosphorus—				
Hiogo,	6 t.	15 c.		£1,568

Pieric Acid—

New York, 2 t. £163

Potassium Bichromate—Rosario, 10 c. 2 q. £20
Smyrna, 2 t. 10 1 90
Ghent, 1 14 3 68
Tampico, 4 2 2**Potassium Chlorate—**B. Ayres, 10 c. £21
Odessa, 1 t. 17 84
St. Petersburg, 33 19 1,065
Antwerp, 1 45
Gothenburg, 2 70
Bari, 2 10 98
Boston, 8 18 223
Messina, 10 20
Lyons, 10 20
Oporto, 18 25
Königsberg, 1 15 60
Shanghai, 1 10 57
Manaos, 5 13
Lyon, 15 42
Rotterdam, 1 6 73
Tampico, 18 30
Vera Cruz, 3 6
New York, 18 15 800
Stettin, 1 10 58
Santos, 9 77
Calcutta, 10 25
Hiogo, 22 10 845**Potassium Prussiate—**

Hiogo, 10 c. £40

Potassium Silicate—

Leghorn, 2 t. 8 c. £12

Salt—Accra, 12 t.
Akassa, 508
Amsterdam, 120
Antwerp, 475
Appam, 12
Baltimore, 524
Barbadoes, 93
Benin, 0
Bereby, 5 7 c.
Bilbao, 2 5
Boston, 200
Brass, 10
B. Ayres, 3 8
Calcutta, 12,140
Cameroon, 45 18
C. C. Castle, 75
Christiania, 10
Degama, 100
Galveston, 3,301 10
Ghent, 80
Gd. Bassam, 134
Half Jack, 11
Iceland, 244
Iquitos, 22 17
Lagos, 101 15
Lahou, 12 10
M. Video, 31
Montreal, 228 10
N. Orleans, 2,100
Newport News, 150
New York, 70
Old Calabar, 160
Para, 835 10
Rangoon, 1,023
Rotterdam, 107
Savannah, 450
Shanghai, 13
Sierra Leone, 58
Sydney, N.S.W., 25
Trinidad, 29 3
Winnebago, 12 10**Salt Cake—**Sydney, 1 t. 1 c. £3
Baltimore, 161 2 228
Gijon, 56 15 3 q. 120**Saltpetre—**Rosario, 2 t. £50
Macao, 1 5 24
M. Video, 5 2 q. 5
Pernambuco, 5 11 2 155**Sheep Dip—**

Punta Arenas, 13 t. 11 c. 3 q. £484

B. Ayres, 20 cks.Bordeaux, 55 t.
Cienfuegos, 30
Nantes, 150**Slag—**Bordeaux, 55 t.
Cienfuegos, 30
Nantes, 150**Soap—**Alexandria, 20 cks.
Algoa Bay, 998 bks.
Amsterdam, 50
Antigua, 155
Antwerp, 130
Axim, 50
Barbadoes, 350
Bathurst, 84
Bosnia, 250Bombay, 35
Boston, 1,000
B. Ayres, 50
Calcutta, 130 500 bbls.
Callao, 3
Cameroon, 500
Cape Town, 1,900 105
Christiania, 146 5
Copenhagen, 42
Curacao, 30
Delagoa Bay, 10
Drewin, 112
Durban, 1,600
E. London, 1,000 45
Ferrol, 5
Ghent, 1
Gibraltar, 485
Gd. Bassam, 130
Half Jack, 20
Halifax, 50
Hamburg, 259
Havre, 240
Iquique, 10
Kingston, Ja., 80
Kurrachee, 10 13
Lagos, 20
Las Palmas, 260
Malta, 60 120
Monrovia, 40
M. Video, 2
Mossel Bay, 50
Naples, 6
New York, 125 1,033 8 cks.
Piraeus, 135
Pt. Natal, 4,852
Rangoon, 700 9
Rotterdam, 577
St. John's, Nfld., 625 61
St. Lucia, 188
St. Nazaire, 80
Sapelli, 150
Savannah, 6,700 12
Shanghai, 210 25
Singapore, 20
Smyrna, 1,480
Sydney, NSW, 45
Syra, 500
Teneriffe, 326 3
Valparaiso, 400
Warri, 400**Soda—**Boston, 15 cks.
New York, 30
Rio de Janeiro, 10 dms.**Soda Alkali—**Alicante, 35 brls.
Barcelona, 50
Boston, 40 38 cks.
Genoa, 199
Leghorn, 40
New York, 25
Salonica, 35
Toronto, 35
Vigo, 35**Soda Ash—**Adelaide, 150 brls.
Antwerp, 100 bgs.
Bahia, 10
Baltimore, 333 tcs. 5 844 65 cks.
Barcelona, 82
Bombay, 8
Boston, 119 1,400 264
B. Ayres, 400 brls. 4
Calcutta, 163
Callao, 22
Canea, 100
Canterbury, 34
Corfu, 4
Dunedin, 20
Galatz, 5 50
Ghent, 2
Havana, 369
Hiogo, 244
Kobe, 413
Melbourne, 160
Mexico, 60
Mililene, 25
M. Video, 180
Montreal, 12 tcs.
Nauplia, 10
N. York, 174 1,795 428
Odessa, 100
Oporto, 5 pps. 15 dms.
Patras, 20
Philadelphia, 122 tcs. 4,694 60 cks.
Rio de Janeiro, 250 brls.
Rosario, 15
Seattle, 15
Seattle, 50
Sydney, N.S.W., 32
Tampico, 16
Toronto, 1,200
Wellington N.Z., 10
Yokohama, 100**Soda Crystals—**Boston, 50 bgs. 476 brls. 124 cks. 100 kgs.
Cape Town, 25
Catania, 14
Montreal, 533 300
New York, 280 200
Philadelphia, 75 50
Talcuano, 50**Sodium Arseniate—**Antwerp, 4 cks.
Paris, 10 brls.**Sodium Bicarbonate—**Adelaide, 10 brls. 125 bgs.
Alexandretta, 10
Algoa Bay, 10 kgs.
Barcelona, 60
Bari, 45 2 cks.
Batavia, 1,285
Bombay, 1,285
Bordeaux, 12 pks.
Cadiz, 10
Canterbury, 100
Cartagena, Sp., qty. in kgs. 8 cks.
Colombo, 2 brls.
Danzig, 25
Dunedin, 20
Genoa, 116 10
Gutajewski, 700 10
Hiogo, 200
Kurrachee, 395 2
Malta, 11 bgs.
Maracaibo, 10
Marseilles, 220 50
Melbourne, 100
Mexico, 45
M. Video, 43
Nantes, 200
Newfairwater, 300
Odessa, 300
Paris, 50
S. John's, Nfld., 150
Smyrna, 50 2 brls.
Stettin, 14
Tampico, 60
Vera Cruz, 50
Wellington, N.Z., 50
Yokohama, 1,000
Singapore, 4**Sodium Bichromate—**

Ghent, 25 cks.

Sodium Chlorate—Boston, 50 kgs.
Hamburg, 4 cks.
Lisbon, 1
New York, 50
St. Petersburg, 100
Stettin, 20**Sodium Silicate—**Bilbao, 70 brls.
Corfu, 22 cks.
Genoa, 30
Madeira, 20
Montreal, 50
Oporto, 6
Shanghai, 29
Sydney, N.S.W., 15 dms.**Sodium Sulphate—**Rio de Janeiro, 10 kgs. 30 brls.
Rosario, 6 cks.
Santos, 10**Sulphur—**Macao, 1 t. 10 c. £8
Halifax, 50 5 182
Boston, 300 6 976
M. Video, 2 2 q. 11
Philadelphia, 4 6 130**Sulphuric Acid—**Macao, 1 c. £1
Pernambuco, 9 4**Superphosphate—**Nantes, 69 t. 14 c. 3 q. £179
Bordeaux, 59 1 128
Rio de Janeiro, 9 16 3 23**Terra Alba—**

Philadelphia, 50 cks.

Treacle—Antwerp, 15 brls.
Brussels, 6
Copenhagen, 18 cks.
Gefle, 25
Ghent, 2 t. 8 c. 10 3 hf. pns.
Gothenburg, 42 40
Hamburg, 50
Malta, 15 cks.
Norfolk, 96
Rotterdam, 10 10
Terneuzen, 35 10**Turpentine—**Bathurst, 10 dms.
Boca, 3 brls. £10
Manaos, 10
Pt. Louis, 15**Ultramarine—**New York, 1 cks. 11 brls.
Sydney, N.S.W., 16**Varnish—**Alexandria, 2 cks.
Genoa, 3 3 cks.
Leghorn, 3 4
Malta, 1 brl.
Mayaguez, 1
M. Video, 2
Montreal, 3 4
Naples, 3
New York, 1
Tampico, 1**Verdigris—**

Hiogo, 1 cks.

Zinc Chloride—Bombay, 6 t.
Halifax, 12 c.**Zinc Oxide—**

Lisbon, 1 cks.

Zinc White—

New York, 2 cks.

MANCHESTER

Week ending October

Alkali—Treport, 100 bgs.
Rio de Janeiro, 1 cks.**Alum—**

Rabat, 50 brls.

Caoutchouc—

Rotterdam, 3 bds.

Caustic Soda—

Sfax, 5 dms.

Chemicals (otherwise used)Alexandria, 2 cks.
Cairo, 10
Rio de Janeiro, 7 4 cks.
Santos, 35 10**Coal Tar Products (otherwise described)—**Treport, 26 cks.
Antwerp, 1 dms.
Hamburg, 15
Rotterdam, 12 1 tle p**Copperas—**

Rabat, 40 brls.

Linseed Oil—

Alexandria, 20 brls.

Manure—

Treport, 15 t. 8 c.

Painters' Colours—

Rotterdam, 1 cks. 1 cks.

Pitch—

Antwerp, qty.

Soap—

Alexandria, 31 cks.

Sodium Bicarbonate—

Alexandretta, 14 kgs.

HULL

Week ending September

Alkali—

Gothenburg, 4 cks.

Ammonium Sulphate—

Bordeaux, 100 bgs.

Bleaching Powder—Danzig, 21 cks.
Stettin, 46**Carbolic Acid—**Antwerp, 6 cks.
New York, 54
Stettin, 10 4 bds.**Caustic Soda—**

Danzig, 100 dms.

Chemicals (otherwise used)Amsterdam, 20 pks.
Antwerp, 1 cks.
Constantinople, 200
Christiania, 4 10
Copenhagen, 20
Danzig, 1350
Drontheim, 1
Ghent, 2

Hamburg, 12	10 cs.
Amsterdam, 15	145
London, 400	61
Amsterdam, 104	79
Amsterdam, 54	11
Amsterdam, 32	9
Seed Oil—	
Amsterdam, 310 c.	
Amsterdam, 500	
Amsterdam, 352	
Amsterdam, 33	
Amsterdam, 78	
Amsterdam, 51	
Amsterdam, 300	
Amsterdam, 354	
Other (otherwise undescribed)	
Amsterdam, 3 cks.	
Amsterdam, 12 dms.	
Amsterdam, 2 bls.	
Amsterdam, 1 cs.	
Amsterdam, 74 cks.	
Amsterdam, 40 c.	
Amsterdam, 35	
Amsterdam, 676	
Amsterdam, 24	
Amsterdam, 35	
Amsterdam, 73	
Amsterdam, 18	
Amsterdam, 42	
Amsterdam, 143	
Amsterdam, 40 t.	
Amsterdam, 750	
Amsterdam, 792	
Amsterdam, 7 dms.	
Amsterdam, 65 cks.	1 dm.
Amsterdam, 160 kgs.	5 pks.
Amsterdam, 1	110
Amsterdam, 3	48
Amsterdam, 25	104
Amsterdam, 17	1 cs.
Amsterdam, 15	10 dms.
Amsterdam, 15	3
Amsterdam, 6	
Amsterdam, 89	
Amsterdam, 7	3 pks.
Amsterdam, 37	
Amsterdam, 100	
Amsterdam, 35 cs.	
Amsterdam, 63 t.	
Amsterdam, 10 bxs.	
Amsterdam, 1 cs.	
Amsterdam, 1	
Amsterdam, 20 cks.	
Amsterdam, 200 cs.	
Amsterdam, 350	10 bgs.
Amsterdam, 5 cks.	
Amsterdam, 25 cks.	
Amsterdam, 1	
Amsterdam, 4	
Amsterdam, 7	
Amsterdam, 8	
Amsterdam, 15 cks.	
Amsterdam, 3 brls.	
Amsterdam, 3 cs. 4 dms.	
Amsterdam, 2	
Amsterdam, 1 ck.	

Bleaching Powder—	
Calcutta, 57 t. 16 c.	
Canada, 11 16½	
U.S.A., 5 9¼	
Boracic Acid—	
Havre, £241	
Caustic Soda—	
Iloilo, 5 t. 15¼ c.	
Chemicals (otherwise undescribed)	£25
China Clay—	
Egersund, 10 c.	
Chloroform—	
Cape Town, £25	
Coal Products—	
Benzol	
Hamburg, 6 t. 16 c.	
Creosote Oil	
Russia, £310	
Christiania, 20	
U.S.A., 75	
Naphtha	
Rouen, £80	
Amsterdam, 27 t. 7 c.	
Pitch	
Gothenburg, £329	
Italy, 2,523	
Russia, 70	
U.S.A., 297	
Cien, 160 t.	
Konigsberg, 40 8 c.	
New York, 498	
Amsterdam, 250	
Canada, 288	
Tar	
Canada, £150	
Montreal, 127	
Russia, 90	
Christiania, 15 brls.	
Konigsberg, 75 t. 7 c.	
Penang, 71	
Saigon, 50	
Singapore, 46	
Norfolk, 242	
U.S.A., 100	
Copperas—	
Calcutta, 40 t. 18 c.	
Dyestuffs (otherwise undescribed)	£149
Gothenburg, £28	
Hydrochloric Acid—	
Trinidad, £245	
Iodine—	
Rotterdam, £175	
Linseed Oil—	
Kingston, Jam., 6 t. ½ c.	
Natal, 3	
Trinidad, 1	
Litharge—	
New York, £175	
Montreal, 250	
Magnesium Sulphate—	
Christiania, £110	
Manganese—	
Basle, £110	
Nitrate of Lead—	
Paris, 10 t. 12 c.	
Canada, £92	
Paint—	
Amsterdam, £35	
Calcutta, 87	
Havana, 62	
Philippine Is., 215	
Singapore, 68	
Painters' Colours—	
Calcutta, £259	
Gibraltar, 51	
Manila, 120	
Iloilo, 20	
Demerara, 23	
Trinidad, 38	
Paraffin Wax—	
Barcelona, £104	
Cape Town, 64	
Odessa, 50	
Paris, 70	
Rouen, 13	
Russia, 932	
Alexandria, 1 t. 7 c.	
Christiania, 90	
Potash Salts—	
Tampico, 6 t. 13¼ c.	
Potassium Bichromate—	
Amsterdam, 3 t. 16¼ c.	
New York, 4 4¼	
Rouen, 23 5¼	
Montreal, 6 4¼	
Rotterdam, £60	
Sheep Dip—	
Punta Arenas, £166	
M. Video, 350	

Soap—	
Antigua, 1 t. 5 c.	
Barbadoes, 3 10	
Trinidad, 2 10	
Sodium Bichromate—	
Amsterdam, 18½ c.	
New York, 3 t. 2½	
Rouen, 24 14¼	
Stannous Chloride—	£37
Demerara, 50	
Sulphur—	
Demerara, 5 t. 13¼ c.	
Sulphuric Acid—	
Manila, £51	
Demerara, 50	
Trinidad, 50	
Superphosphate—	
Jersey, 110 t.	
Treacle—	
Christiania, 12 t. 13 c.	
Hamburg, 7 14	
Norfolk, 14	
Stockholm, 117	
Gothenburg, £305	
Helsingborg, 13	
Halmstad, 30	
Ultramarine—	
Calcutta, £42	
White Lead—	
Calcutta, £112	
Bahia, 73	
Demerara, 44	

TYNE.

Week ending September 28th.

Albumen—	
Barcelona, 1 q.	
Alkali—	
Amsterdam, 10 t.	
Amsterdam, 22 13 c.	
Christiania, 50 1	
Rotterdam, 2 19	
Ammonia—	
Palermo, 9 t. 17 c.	
Genoa, 9 19	
Pomaron, 6	
Ammonium Carbonate—	
Rendsburg, 1 t. 3 c.	
Ammonium Chloride—	
Barcelona, 2 t. 9 c.	
Antimony—	
Hamburg, 4 t.	
Arsenic—	
Genoa, 3 t. 12 c.	
Asbestos—	
Bergen, 1 c.	
Barytes—	
Hamburg, 5 t.	
St. Petersburg, 20 18 c.	
Blanc Fixe—	
Barcelona, 4 t. 1 c.	
Bleaching Powder—	
Amsterdam, 87 t. 6 c.	
Lisbon, 15 7	
Amsterdam, 17 6	
Odense, 5 1	
Nakskov, 1 10	
Copenhagen, 47	
Genoa, 5 1	
St. Petersburg, 111 6	
Drontheim, 10	
Gothenburg, 15	
Carbolic Acid—	
Rotterdam, 11 t. 9 c.	
Bergen, 2	
Caustic Soda—	
Hamburg, 62 t. 18 c.	
Amsterdam, 3 12	
Seville, 33 17	
Bilbao, 10 3	
Christiania, 2 18	
Christiansand, 1 9	
Gothenburg, 5 13	
Copenhagen, 7 4	
Rotterdam, 7 12	
Genoa, 45 5	
Barcelona, 82 7	
Christiansund, 3	
Copperas—	
Copenhagen, 10 t. 3 c.	
Hydrochloric Acid—	
Pomaron, 10 c.	
Iron Oxide—	
Ceara, 10 t.	
Litharge—	
Gothenburg, 5 c.	

Magnesia—	
Hamburg, 1 t. 1 c.	
Amsterdam, 1	
Odense, 8	
Barcelona, 13 10	
Manure—	
Genoa, 70 t.	
Valencia, 85 1 c.	
Pomaron, 10	
Nitric Acid—	
Pomaron, 7 c.	
Paint—	
Amsterdam, 12 c.	
Bilbao, 1 t. 3	
Copenhagen, 2 13 1 q.	
Genoa, 14	
Barcelona, 8	
Christiansund, 8	
Soda—	
Hamburg, 23 t. 18 c.	
Amsterdam, 9 18	
Drontheim, 110	
Genoa, 5	
Amsterdam, 21 8	
Randers, 26 4	
Nakskov, 21 16	
Christiania, 10	
Rotterdam, 31 7	
Valencia, 29 7	
St. Petersburg, 10 9	
Bergen, 1 12	
Soda Ash—	
Hamburg, 2 t. 11 c.	
Gothenburg, 66 15	
Lisbon, 40 3	
Sulphur—	
Sannesund, 400 t.	
Rotterdam, 100	
Tallow—	
Genoa, 9 t. 6 c.	
Varnish—	
Amsterdam, 20 lbs.	
White Lead—	
Copenhagen, 1 t. 6 c.	
Gothenburg, 10	

GOOLE.

Week ending September 25th.

Chemicals (otherwise undescribed)	
Amsterdam, 1 ck.	
Hamburg, 1	
Coal Products (otherwise undes.)—	
Amsterdam, 2 cks.	
Boulogne, 3 1 cs.	
Ghent, 2 1	
Hamburg, 19 1 tin 2 dms.	
Rotterdam, 2 4 cs. 10	
Colours—	
Ghent, 6 cks.	
Dyestuffs (otherwise undescribed)	
Hamburg, 95 cks.	
Rotterdam, 46	
Manure—	
Boulogne, 63 bgs.	
Bruges, 175	
Pitch—	
Amsterdam, 504 t.	

GRIMSBY.

Week ending September 28th.

Alkali—	
Hamburg, 26 cs.	
Chemicals (otherwise undescribed)	
Amsterdam, 1 ck. 8 btl.	
Hamburg, 1 cs. 9 pks. 8 21 dms.	
Rotterdam, 2	
Coal Products (otherwise undes.)—	
Amsterdam, 3 cks. 3 pks.	
Dieppe, 57 3 dms	
Hamburg, 77	
Rotterdam, 77	
Colours—	
Amsterdam, 13 pks.	
Dieppe, 1 ck.	
Hamburg, 6	
Malmo, 14 dms.	
Rotterdam, 2	
Dyestuffs (otherwise undescribed)	
Amsterdam, 1 ck.	
Dieppe, 6 1 cs.	
Manure—	
Dieppe, 50 bgs.	

GLASGOW.

Week ending October 3rd.

Sodium Sulphate—	
Amsterdam, 51 t. 13¼ c.	
Odessa, 40 14¼	
Amsterdam, 20 2½	
Amsterdam, 25 10	
Amsterdam, 60	
Amsterdam, 9 19¼	

PRICES CURRENT.

WEDNESDAY, OCT. 9TH

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—		£	s.	d.	
Acetic, 25 % and 40 %	per cwt.	6/	&	9/-	
" Glacial	"	40/-			
Arsenic S.G., 2000°	"	0	15	0	
Fluoric	per lb.	0	0	3 3/4	
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10	
" (Cylinder), 30° Tw.	"	0	3	0	
Nitric 80° Tw.	per lb.	0	0	1 3/8	
Nitrous	"	0	0	1 1/4	
Oxalic	nett	0	0	3 3/4	
Phosphoric, 1750°	"	0	1	1	
Picric	"	0	0	10	
Sulphuric (fuming 50 %)	per ton	15	10	0	
" (monohydrate)	"	5	10	0	
" (Pyrites, 168°)	"	3	0	0	
" 150°	"	1	5	0	
" (free from arsenic, 145°)	"	1	7	6	
Sulphurous (solution) S.G. 1025	"	3	0	0	
Tannic (pure)	per lb.	0	1	0	
Tartaric	"	0	0	11 1/4	
Arsenic, white powdered	nett per ton	15	0	0	
Alum (loose lump)	"	4	12	6	
Alumina Sulphate (pure)	"	4	12	6	
Aluminoferic	"	2	7	6	
Aluminium	per lb.	0	2	10	
Ammonia, Anhydrous	"	0	1	3	
" 88° = 28° B.	per lb.	0	0	3	
" = 24° B.	"	0	0	2 1/4	
" Carbonate	nett	0	0	3 3/4	
" Muriate	per ton	23	10	0	
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	&	37/-	
" Nitrate	per ton	38	10	0	
" Phosphate	per lb.	0	0	6 1/2	
" Sulphate (grey) London	per ton	8	17	6	
" (grey) Hull	"	8	16	3	
Aniline Oil (pure)	per lb.	0	0	5 1/4	
Aniline Salt	"	0	0	4 3/4	
Antimony	per ton	31	10	0	
" (tartar emetic)	per lb.	0	0	7	
" (golden sulphide)	"	0	0	10	
Barium Chloride	per ton	6	7	6	
" Carbonate (native)	"	3	5	0	
" Sulphate (native levigated)	"	42/6	to	65/-	
Bleaching Powder, 35 %	nett	7	0	0	
" Liquor, 7 %	"	3	10	0	
Bisulphide of Carbon	"	13	5	0	
Chromium Acetate (crystal)	per lb.	0	0	6	
Calcium Chloride	per ton	2	2	6	
China Clay (at Runcorn) in bulk	"	15/-	to	30/-	
Coal Tar Products and Dyes:—					
Alizarine (artificial) 20 %	nett per lb.	0	0	8	
Magenta	"	0	3	9	
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	11 1/2	
Benzol, 90 % nominal	per gallon	0	1	1 1/2	
" 50/90	"	0	1	1	
Carbolic Acid (crystallised 40°)	per lb.	0	0	5 1/4	
" (crude 60°)	per gallon	0	1	6 1/2	
Creosote (ordinary)	"	0	0	1 1/2	
" (filtered for Lucigen light)	"	0	0	2	
Crude Naphtha 30 % @ 120° C.	"	0	0	5 1/4	
Grease Oils, 22° Tw.	per ton	2	10	0	
Pitch, f.o.b. Liverpool or Garston	"	1	15	0	
Solvent Naphtha, 90 % at 160°	per gallon	0	1	2	
" Lucigen " and " Wells " Oils	"	0	0	2 1/2	
Copper	per ton	46	15	0	
" Sulphate	"	16	10	0	
" Oxide (copper scales)	"	41	10	0	
Glycerine (crude)	"	18	10	0	
" (distilled S.G. 1250°)	"	47	10	0	
Iodine	nett, per oz.	0	0	9	
Iron Sulphate (copperas)	per ton	1	5	0	
" Sulphide (antimony slag)	"	2	0	0	
Lead (sheet) for cash	"	12	7	6	
" Litharge Flake (ex ship)	"	13	15	0	
" Acetate (white)	"	22	0	0	

THE CHEMICAL TRADE JOURNAL AND OIL, PAINT and COLOUR REVIEW.

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139.

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Notices.

Communications for the *Chemical Trade Journal* should be sent by Post Office Orders made payable to—

8 BROS., 32, Blackfriars Street, MANCHESTER.

Our Registered Telegraphic Address is—

"Expert, Manchester."

Terms of Subscription, commencing at any date, to the *Trade Journal*,—payable in advance,—including postage of the world, are as follows:—

Monthly (52 numbers)	12s. 6d.
Yearly (26 numbers)	6s. 6d.
Quarterly (13 numbers)	3s. 6d.

Subscribers will oblige by making their remittances for subscriptions by Post Office Order, crossed and payable to "Davis Bros."

Contributors are invited to forward items of intelligence, or cuttings from newspapers, of interest to the trades concerned.

Communications for the Editor, if intended for insertion in the next issue, should reach the office not later than **Tuesday**.

Reports, and correspondence on all matters of interest to the chemical and allied industries, home and foreign, are solicited. Contributors should condense their matter as much as possible, to fill only one side of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be on separate sheets.

Advertisements.

Advertisements of Situations Vacant, Premises on Sale or To be Let, and Wants, and Specific Articles for Sale by Private Contract are published in the *Chemical Trade Journal* at the following rates:—

10 Words and under.....	2s. 6d. per insertion
Each additional 10 words	0s. 6d. "

Advertisements, Announcements in the Directory Columns, and all Advertisements prepaid, are charged at the Tariff rates which will be forwarded on request.

Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

CURRENT TOPICS.

THE FUTURE OF THE FOYERS FALLS.

DURING the last two months a nice little correspondence has been running in the daily press relative to the future of these Falls, while in some cases even greater prominence has been given to the matter by editorial comments. It is not our intention to discuss at length the rights and wrongs of this question. To put the matter in a nut shell, the public have acquired such a taste for cheap things that cheapness has become vital to the success of most industries. They have, therefore, little right to complain if their artistic water falls are invaded in the search for cheap power to satisfy their tastes. The utilisation of Foyers has been decided upon, and commenced—it will be finished. It is rather the want of congruity that this discussion has revealed between the actions and sayings of the self-constituted champions of the Falls that we are for the moment concerned with. The "leaders of the opposition" are a noble Duke and a gentleman who appears to have nothing else to do but to devote his time and energies to protecting the country in general from the devastating inroads of industrial and civil progress. This occupation, practised in moderation, is a very estimable one, and we have no desire to traduce it. His latest plaint against the silence of the Inverness papers is very harmless. It only shows that he neither knows much about journalism nor recognises that possibly the folks of Inverness know their own business best.

The protectors of Foyers would have us understand that this question is one of "national importance," and therefore the claims they advance are superlative to the individual interests of a few seekers after "cheap power." Now, when a letter is sent by the British Aluminium Co. refuting certain statements made by his Grace the Duke, it takes a fortnight to obtain a reply. This is not the fault of his Grace, but his secretary who, travelling in Scotland, "inadvertently mislaid" the company's letter, which, while flatly contradicting the misleading statements about "great spoil heaps" and emanations of hydrofluoric acid gas, asked for a public correction of these misstatements.

If, as they would have us believe, this matter is really of "national importance," such "inadvertance" is culpable negligence, apart from it being desirable to at least promptly acknowledge letters of this nature.

His Grace's reply, however, is not very satisfactory. It merely says that he cannot correct the alleged misstatements in his letter. He does not sturdily maintain the position he has taken up by stating that they are *not* misstatements. This way of shelving the matter leaves the impression that the statements in reality were not tenable, but it is not his Grace's intention to publish that fact any more than he can help. Individually we are inclined to hesitate before laying such an ungraceful charge at the door of a Duke, and re-

gret that his reply should have been so worded as to render such a construction possible; yet notwithstanding it was so.

All these little things tend to show that however righteous the cause may be it needs unrighteous arguments for its support.

In these matters allowance has to be made for a little exaggeration on both sides, and thus much is accounted for, but it is much more difficult to account for the attitude of some of the press. It is a fact that at the present moment over 400 men are actually engaged in the construction of the company's works, where plant worth about £40,000. is being put down, and yet we find a paper of high repute, which is distinctly biased in favour of the labour cause, clamouring as loudly as the bluest blood against the utilization of these Falls for the advancement of industry and employment, merely to benefit the "wicked moneyed man" who "does" the Falls on his Scotch tour. No wonder the last labour Congress was of a turbulent tone when such defection is rife. The change of front is to us more interesting than the point at issue. With regard to the Falls, it is very significant, to our way of thinking, that while the press of the country is willing to insert letters protesting against the utilisation of these falls (though the matter has no direct interest for them, save that, inherent in all gratis "copy"), yet the Inverness and Dundee papers, which must know most about what is wanted in their district, are either silent as far as regards condemnation or else speak well of the scheme. It is a rule, to which we have yet to find an exception, that a Scotchman may be safely trusted to look after himself and his interests, and in the end he will not come out the loser where "siller" is concerned.

TRADE PROSPECTS.

It is an encouraging sign that in many branches of the drysaltery and fine chemical markets prices are beginning to advance. The rise in alkali seems to have acted like a ferment upon the whole market, with the result that things generally are looking up. During the past week or ten days there have been definite advances in the prices of glycerine, cream of tartar, citric acid, and other general drysalteries while in several other articles there is a decided tendency towards a firmer position.

In addition to the instance named last week there are rumours of somewhat similar movements for the development of chemical industry abroad. Quite recently we referred to the growth of the manufacturing trade in New South Wales, and the advantages that accrue seem to have inspired Australia with a desire to obtain chemicals at economical rates.

As the result of these brighter prospects it is stated that the provision of a better means of communication with Yokohama, Melbourne, and Sydney is under consideration in certain circles in the Metropolis. The direction of the wind is indicated by straws; we hope this straw is stirred by the precursory puffs of a good stiff breeze—a moderate gale even would hardly come amiss.

NITRATE DIVIDEND.—The San Pablo Nitrate Company will pay a dividend of 5 per cent. out of the profits for the year ending 30th June last, subject to confirmation at general meeting.

THE SHIP CANAL AND THE SALT TRADE.—During the month of September the shipments of salt from Runcorn and Weston Point amounted to 7,507 tons, against 8,176 tons in September, 1894, a decrease of 669 tons. The total shipments from the canal ports for the nine months ending September 30, 1895, were 125,558 tons, against 117,076 tons in the corresponding period of last year, an increase of 8,482 tons, which must be regarded as extremely satisfactory in view of the diminution which has taken place in the volume of the salt exports from Liverpool this year as compared with last.

IMPORTS AND EXPORTS FOR SEPTEMBER

The Board of Trade returns for last month are on the whole satisfactory. There is an increase in the value of imports of chemicals. The exports of chemicals, however, are lower though higher in quantity.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

ARTICLES.	Quantities.	1894.
Margarine	Cwt.	82,462
Copper Ore and Regulus	Tons.	21,788
Pyrites	"	50,149
Tin	Cwt.	76,687
Alkali	"	13,541
Brimstone	"	34,455
Dyes, Coal Tar	£.	50,190
Saltpetre	Cwt.	25,337
Petroleum	Gall.	14,126,388
Turpentine	Cwt.	41,844
Guano	Tons.	1,645
Nitrate of Soda	"	7,665
Paraffin	"	38,186
Rosin	Cwt.	192,566
Tallow and Stearine	"	163,830
Oil Seed Cake	Tons.	20,785
Wood Pulp	"	24,028

EXPORTS OF BRITISH AND IRISH MANUFACTURES

ARTICLES.	Quantities.	1894.
Alkali	Cwt.	499,663
Cement	Tons.	42,668
Coal and Coke	"	2,609,983
Copper, all kinds	Cwt.	87,995
Iron and Steel	Tons.	238,978
Chemical Manures	"	30,452
Oils, seed	"	3,756
Salt	"	51,894

LAMP FATALITY.—Margaret Jane Head, wife of the vestry clerk of the Parish Church at Chatham, was recently found lying upon the floor of her house shockingly injured. Her husband, returning home from a harvest festival at the church, discovered the woman unconscious, her clothes smouldering and her body badly burned. The petrol lamp, it appeared, exploded, setting fire to her clothes. She died a few hours in agony before succumbing to the shock.

SINGULAR ARC LAMP EXPLOSION.—A peculiar accident occurred this week at a hairdresser's in Corporation-street, Manche premises are lighted by electricity, and two large new arc lamps had just been erected, one at the door and the other in the rear shop. The first time the current was turned on from the main, the lamp in the shop appeared to act all right, but after a few minutes there was a terrific report, and the greater pot lamp, weighing considerably over 20lbs., fell. The report caused considerable alarm of people. How the explosion was a mystery.

THE RUBBER INDUSTRY AT LAGOS.—The newly developed industry of indiarubber in Lagos promises to attain importance very soon. In 1893 no imports of this article were recorded from the colony, and last year the amount was only £5,000. A single steamer which left Lagos at the beginning of last year, however, the value of the indiarubber shipped for Liverpool was £100,000. The new industry appears to have given rise at Lagos to a movement resembling that which is often occasioned by a new gold mine. Numbers of clerks, small traders, and others, including, it is said, professional men, have gone into the interior to profit by the discovery and manufacture of the gum. The native owners of the land, however, insisting upon the payment of royalties, and some of themselves entering into the business of preparing the rubber for the market. Prices in the interior have been considerably advanced, and there is no longer so much profit as there was at first in the collection and transporting it to the coast. Some fear is expressed that the ordinary trade in palm oil and palm kernels may suffer from the diversion of labour to the fresh industry, and that the supply of rubber itself may be threatened by the indiscriminate tapping of the rubber trees. It is suggested that the Colonial Government take steps to prevent the spread of this last-named evil.

The invitation of Messrs. Easton, Anderton, and Goolden, limited, we have paid a visit to their works at Erith, where the Crusher is at work, its action being explained in full by Mr. the patentee. The great feature about the pulverizer is that speed machine, especially suited for crushing gold quartz, giving excellent results with a number of other materials. In revolving case a crushing roller of smaller diameter revolves rate axis, engaging with the underside of the outer casing. The roller is controlled by the strong spring shown in the illustration that the crushing power can be varied. The exact circle of is as follows:—

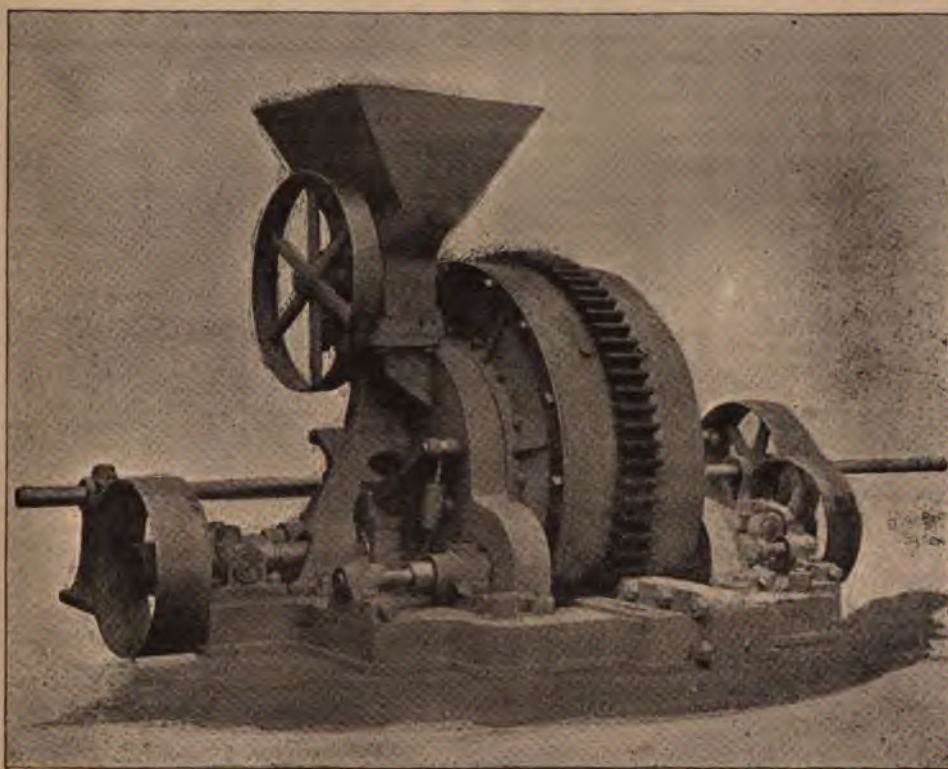
the invitation of Messrs. Easton, Anderton, and Gooldeen, limited, we have paid a visit to their works at Erith, where the Crusher is at work, its action being explained in full by Mr. L, the patentee. The great feature about the pulverizer is that low speed machine, especially suited for crushing gold quartz, giving excellent results with a number of other materials. In its revolving case a crushing roller of smaller diameter revolves on a separate axis, engaging with the underside of the outer casing. The roller is controlled by the strong spring shown in the illustration, so that the crushing power can be varied. The exact circle of rotation is as follows:—

The drum is slowly revolved by means of a pinion mounted on the shaft, the number of revolutions not exceeding 40 per minute. The drum on the path (which is made of renewable sections of iron) runs the crushing roller, keyed on to a shaft which is driven according to requirements by a very heavy spring. A pivoted sliding block allow for the radial movement of the shaft when doing heavy work. The material is fed under the leading side of the roller, and, when crushed by once passing under the roll, is elevated by a series of elevators fixed to the inner circumference of the drum.

- (2) A 4ft. machine, with roller and roller path lined with emery, suitable for delicate colours that might be stained when crushing with iron, such as ochre, &c. At the back is a concentrator, which divides heavy and light matter, such as spa in ochre, and mica in quartz. These are delivered into separate chambers automatically.
- (3) A 2ft. 6in. machine, arranged for grinding barley, wheat, and such like materials, the flour produced by it being very fine and white.
- (4) Also a 2ft. 6in. machine, but with a toothed roller and path, for pulverizing tough substances which require breaking up as well as grinding, such as bark, cork, leather, rice, sawdust, bones, &c. &c.

Machines are also constructed with modifications in details for crushing various special materials, such as emery, basic slag, fuller's earth, chemicals, plumbago, disinfectants, &c., &c.

A 6 ft. machine will grind 20 cwt. of hard quartz per hour to such a fineness that it will pass through a 40 mesh sieve, *i. e.*, one having 1,600 holes per square inch. The power required for this mill is 11 B.H.P., and, being self-contained, no expensive foundations are required. It can be driven either directly from an engine, or from shafting by means of belts; but perhaps the best means of working it is by an electric



a line with its axis; a fan draws all particles sufficiently light under its influence from within the drum, and delivers the material into the store room. The work of the mill is continuous, uniform, and the size of the bulk fed into the mill is only by the dimensions of the drum and the roller respectively. The be easily and effectively adjusted for work of a special nature. The powders the speed of the fan alone requires adjustment, and rate is its action that it can be set to withdraw the material so as certain meshes (or as an impalpable powder) with absolute fineness and without screens. When granulated or coarse products are required, the roll is slightly set up so as to pass the size required, and the fan is speeded to draw to a corresponding degree of fineness. The wearing parts, journals, bearings, &c., are always accessible, being externally. The roll crusher has a chilled iron ring, held in place by four bolts, and is easily replaced. As the whole work is continuous, and at one operation, very little attention is required. There is but little noise and vibration.

There is but little noise and vibration. There are nine different types of machines made, of which four have been taken down, and are at work at the Erith Iron Works, namely:—
1. A sft. machine, arranged so that quartz, silver, copper, and lead ore, phosphates, cement, and other hard substances can be pulverized and concentrated, the actual power required for this mill being 7 horse-power.

motor. A large central station can be placed conveniently for coal and water supplies, and work several of the mills by motors situated at a considerable distance. The pulverizer can thus be situated at the mines themselves, even when no water is obtainable on the spot.

For quartz grinding this pulverizer is likely to become very popular, more especially in places where water is scarce. The material can be crushed dry, and at least twice the quantity can be dealt with as can be crushed by other machines requiring the same horse-power, while the weight of the pulverizer is considerably less than a battery of stamps of equal power. In the case of stamps, a proportion of the gold is lost with tail water, whereas the "Niagara" returns to the collecting chambers the whole of the gold. The component parts of the pulverizer are interchangeable, so that those subject to wear and tear can be readily replaced by unskilled labour. The cost of maintenance does not exceed 2½ per cent. per annum of the first cost of the machine.

EXPLOSION OF SEWER GAS.—While a labourer named Daniel Knight was at work in a manhole connected with the main sewerage at Farnham, there was an explosion of sewer gas, the flames starting up through the aperture in the street. Knight, who was nearly burnt to death before he was rescued by another labourer, now lies in a critical condition.

ALKALI MANUFACTURE.

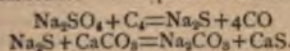
By W. F. S. CHENHALL.

(Continued from page 229.)

The Leblanc method of soda manufacture consists chiefly of three processes, viz., the salt cake process, the black-ash process, and the lixiviation of the latter. The materials required for the salt cake process are 16 cwt. of salt and 1,800 lbs. of sulphuric acid having a specific gravity of 1.42. The salt is placed in a semicircular iron pan which is heated from underneath, and has on each side reverberatory furnaces. Through the top of the pan the acid is poured upon the salt, and the following reaction ensues: $\text{H}_2\text{SO}_4 + \text{NaCl} = \text{HNaSO}_4 + \text{HCl}$. The maximum temperature of the mass during the hour occupied by the process is about 50 degrees. The hydrochloric acid gas is passed into condensing towers having a height of 60 feet. They are filled with hard coke, over which water is continually falling, dissolving the gas, and being carried off for storage by pipes at the bottom of the towers. The towers are built of Yorkshire flag, and of course quite gas-tight. Any gas not absorbed in the first tower is passed down a tunnel into the bottom of a second tower and absorbed therein. The sodium hydrogen sulphate left in the pan is raked into the two reverberatory furnaces (called open roasters) at its sides, and there roasted until the reaction is completed and di-sodium sulphate and more hydrogen chloride obtained: $\text{NaHSO}_4 + \text{NaCl} = \text{Na}_2\text{SO}_4 + \text{HCl}$. The di-sodium sulphate or salt cake contains about five per cent. of impurities, which consist chiefly of the bi-sulphate and salt, the remaining matters being water, ferric oxide, calcium sulphate, &c. In this second part of the process the products of combustion from the furnaces are collected and passed into the towers with the gaseous acid. About five tons of hydrogen chloride and 20 tons of salt cake are produced from one of these furnaces daily. In order to prevent the soot, &c., from the open roasters being collected with the acid and the latter so deteriorated, another form of furnace termed a closed roaster is used. Only one furnace of this kind is used in connection with the decomposing pan, instead of two open ones. Here the mass to be treated is contained in a sort of muffle and therefore only heated by radiation. Unfortunately, however, the closed furnace is very liable to go wrong in use. It cracks at the top owing to unequal expansion, and consequently hydrochloric acid gas then escapes up the chimney, where the atmospheric pressure is less than in the gas condensers. This difficulty has been overcome by making the pressure of the fuel gases around the muffle greater than the pressure within by building the fireplace several feet below the muffle, and so causing a column of several feet of gas between the grate and the muffle. The current of the fuel gases is checked by having to go around the muffle, and the pressure being accordingly increased. Although this invention does not prevent the muffle cracking, it prevents the hydrochloric acid gas escaping, and the quantity of fuel gas which mixes with the acid does not interfere with the working. By another invention all hand labour is obviated, and the whole process is carried out in one large pan. During the first ten minutes of the operation of the salt cake process, nearly the whole of the reaction is completed, although forty minutes longer is allowed before the termination. This irregularity causes the plant to be overworked at the commencement, and underworked after. It has been proposed that the acid and salt should be admitted into the roasting chamber gradually, and in proper proportions, so that the decomposition of the substances is completed by the time the mass reaches the exit of the roaster. The quantities of the products would thus be made constant.

The equation $2\text{NaCl} + \text{SO}_2 + \text{H}_2\text{O} + \text{O} = \text{Na}_2\text{SO}_4 + 2\text{HCl}$ expresses the reaction of the process of Hargreaves, whereby the manufacture of sulphuric acid separately is avoided. The gases from pyrites burners is passed through a series of kilns consecutively arranged, each containing dried and porous salt, and having a furnace of its own. This process works as perfectly as when sulphuric acid is employed.

The materials employed in the black-ash process are salt cake, coal, and calcium carbonate. The process consists of two reactions—

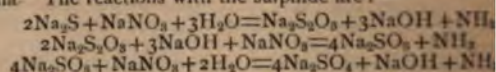


By the first reaction the sodium sulphate is reduced to sulphide by coal with the application of heat. The second reaction takes place upon heating with chalk or limestone. Both these reactions, however, take place in one operation. A charge consisting of 30 cwt. of salt cake, 32 of limestone, and 20 of slack coal is introduced into a cylinder which is revolved by an engine, and through the centre of the revolver the flames from a furnace are directed. More recently, however, a Siemens's gas furnace has been employed, and the revolver is supplied with regenerators underneath. Instead of the revolving furnace a reverberatory furnace used to be used, which only took a small charge of $4\frac{1}{4}$ cwt. The product of the "balling" furnace, as it was called, was of inconstant composition, and had to be worked by hand labour. In the black-ash process the quantity of limestone and coal used is

about twice that theoretically required for reacting with the salt. An innovation has, however, been made by adding 6.5 parts of lime to 100 parts of salt cake and 70 parts of limestone, the quantities being those theoretically required. These quantities the lixiviation much easier. The black-ash usually contains in England of about 37 per cent. of sodium carbonate, 29 per cent. of calcium sulphide, 9 per cent. of lime, and 7 per cent. of remaining 18 per cent. being made up of no less than 16 impurities.

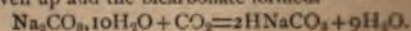
The process of lixiviation or extraction of the soda is carried out in a series of vats containing the black ash, and so arranged that water passes through the vat containing the weakest ash first, and through others which gradually increase in strength until the liquor is nearly saturated, when the fresh black ash is reached. About 50 per cent. of the soda is extracted in this manner. The major part of the sulphur is obtained as insoluble mono-sulphide of calcium, generally is thrown away, to the loss of the manufacturer and gust of his neighbours. The liquor contains the soda, which is treated for the separation of the hydroxide from the carbonate.

Through the use of limestone in excess in the black-ash process, caustic is produced as well as the carbonate, to the extent of 10 per cent. of the soluble soda. Sulphide and thio-cyanite is also formed. The vat is filled with coke, up which hot air and carbonic acid pass, and for oxidising the black-ash liquors, which are allowed to flow through the vat. The waste heat from the black-ash furnace is utilised for evaporating the liquors until the soda crystals are deposited. The crystals are heated to give soda ash, which is purified by oxidation under heat to 100 per cent. of the sodium used is lost in the black-ash process. The remaining red liquors after crystallisation are oxidised by the method, and diluted to specific gravity of 1.10. The liquor is mixed with milk of lime, the CaCO_3 filtered off by means of cloth, the dilute liquors concentrated. The causticised liquor is decanted, the soluble soda extracted from the residue by washing, the residue being used to dilute fresh black-ash liquors. Large quantities of caustic liquor are heated to 260°, when the temperature of the liquor is raised to dull red heat. Most of the cyanides are decomposed at 120° with the evolution of ammonia, but it is necessary to oxidise those which remain together with the sulphides. This is effected by the pumping of air through the hot liquid, or the addition of nitre. If the latter method is employed, the cyanide is decomposed with the deposition of graphite and violent evolution of ammonia. The reactions with the sulphide are:—

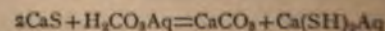


Copper ladles are used for transferring the fused products to drums, where it solidifies, about 90 per cent. of sodium being present. A weaker product containing about 60 per cent. is termed "cream caustic."

The decahydrated carbonate is obtained from the soda ash solution and crystallization, and the bicarbonate is produced by treating the crystals with carbon-dioxide, when the water of crystallization is given up and the bicarbonate formed.

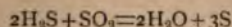


The chief drawback of the Leblanc process has been the tank waste, which used to amount to from 150 to 200 tons. From both the points of view of the manufacturer and the neighbours, it was a fact to be deplored by reason of the mercenary and the danger to health. This substance is very a oxidation, and it is immediately changed upon coming into contact with moisture, carbonic acid, and oxygen of the air. Much evolved gas, mostly hydrogen sulphide, is given off, and the sulphur present often rises to ignition-point, producing sulphur dioxide. When the mass comes into contact with water it becomes foetid and assumes a red colour. The effect is intolerable to bear as they are difficult to suppress. Nitrating down, or even burying, is sufficient to cure it. After a period of nearly half a century, the interior of masses of the waste is found to be still unoxidised. When moist, before exposure to air, waste has been found to consist of about 39.4 per cent. of sulphide, 22.6 per cent. of calcium carbonate, and the remainder hydroxide, silicate, sulphate, and thiosulphate of calcium, with sulphide, coke, sand, alumina, water, and cinders. This has received the attention of many inventors, but I propose to describe only one process, the Chance-Claus process, which has been successful. The waste is mixed with water and placed in a vertical cylinder. Carbon dioxide is passed in. The first reaction is:—



some of the calcium sulphide being converted into carbonate being acted upon by the hydrogen sulphide liberated, and the calcium sulphhydrate. Fresh carbon dioxide acts upon the sulphide converting it into carbonate and evolving hydrogen sulphide.

ted hydrogen is thus passed from cylinder to cylinder until it is exhausted of the gas the cylinder is re-charged with black ash, and placed at the end of the which is arranged in a circular form. The H_2S is then burnt in a layer of ferric oxide, the admission of air being so regulated that one-third of the gas is converted into dioxide, which reacts with sulphide in contact with the hot and porous ferric oxide, as



the sulphur is condensed in brick chambers (the nitrogen passing off) and the sulphur, melted under hot water at high pressure, is ready for the market.

(To be continued.)

The Patent List.

This list is compiled from Official sources in the Manchester Laboratory, under the immediate supervision of Mr. Davis and Alfred R. Davis, who report professionally on the value of Chemical Patents.

NOTIFICATIONS FOR ENGLISH LETTERS PATENT.

Disinfectant. E. Burton. 18,229. September 30.
Cyanides from Gas, etc. F. Livesey. 18,334. October 1.
Hypochlorites, Chlorates, Hydrochloric Acid, and Caustic from Sea Water by Electricity. G. B. Baldo. 18,406. October 2.
Preparation of Ferro-manganese, Ferro-chrome, Ferro-titanium, and similar Alloys. J. Heibling. 18,487. October 3.
Waste from Making Ammonium Compounds as a filling for W. Brothers. 18,503. October 3.
Firing Bricks, Plates, and Pipes. W. Schuler. 18,573. October 4.
For the Manufacture of Phosphates of Ammonia and Potash in an Alkaline Mixture suitable for a Manure. T. Jamieson. 18,635. October 5.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

Abstracts are specially prepared for the Chemical Trade Journal. All rights of publication are reserved. This is the earliest issue in which abstracts of Chemical and allied patents accessible to the

public are given. For Preserving Wood, also applicable for other Purposes. Matthews, Brunswick, Ga., U.S.A. Eng. Pat. 17,486. September 14, 1894. Under International Convention, February 28, 1894.

Preparation, which may be either liquid or solid, consists of a mixture of the following substances in specified proportions:—Coal tar and camphor gum, mixed with powdered sulphur, tallow, arsenious acid, phosphorus, borax, oil of rhodium, bismuth, mercury, cobalt ore, poke-root bark, ether, and oxide of iron. The first four ingredients are melted over a slow fire, then the remaining ingredients added, well stirred in, and the sulphur is dissolved. The mixture can then be run into moulds, where it solidifies. For use it is remelted and applied while hot, or the article to be protected may be immersed in the preservative.

The solid form is obtained by using more tallow, and when the mixture has cooled sufficiently enough petroleum is added to pass to the desired consistency. The composition so prepared is applied when cold like ordinary paint.

Improvements in the Manufacture of Alkaline Cyanides. H. V. Castner, 4, Abchurch-lane, London. Eng. Pat. 21,732. November 10, 1894.

In Nos. 12,218 and 12,219 of 1894, a method of preparing cyanide is described, in which molten metallic sodium is treated with ammoniacal ammonia and carbon. In practice a heavy loss of cyanide results. The patentee has found that this can be overcome by the process in two stages, as follows:—In a horizontal retort, baffle plates dipping into the molten sodium, and heated to between 300° and 400° C., metallic sodium in a molten state is treated with perfectly dry ammonia gas, with the formation of sodium amide, the proportions being 17 pounds of ammonia gas to 1 pound of metallic sodium. The amide is then fused in a vertical retort with carbon heated to dull red, through which the cyanide is being drawn off at the bottom, where it collects. Care is taken in stopping the amide forming process, to remove all the cyanide which is given off, by passing nitrogen or CO_2 through the

Improvements in Producing Cyanide of Potassium and in Furnaces for the Production of Cyanide of Ammonium. W. Schulte, of Siegen, and F. A. Hillnhütten, Germany. Eng. Pat. 15,040. August 9, 1895.

The cyanide of potash is made by passing ammonium cyanide into a solution of alkaline metal. To obtain the cyanide of ammonia, a stove

of refractory material, similar in form to the Cowper or Withwell stoves, used for heating air for blast furnaces, but provided with a central shaft filled with carbon, is raised to white heat by gaseous fuel. The combustion gases are then stopped, and ammonia gas and "carbonised hydrogen" passed in the opposite direction, decomposition taking place, and the resulting ammonium cyanide escaping up the central shaft, through which the combustion gases do not pass. Being at a high temperature, the cyanide of ammonium is first used to keep the potassium melted, and then passed into it to saturation point, potassium cyanide resulting.

Improvements in the Electrolytical Production of Oxides and Salts which are Insoluble, or practically Insoluble, in the Electrolyte. C. Luckow, of Cologne-Deutz Germany. Eng. Pat. 14,801. August 6, 1895.

This patent sets forth in a very elaborate manner the methods and principles of producing oxides insoluble in the electrolyte, by means of electrolysis of very weak solutions that are neutral, slightly acid or alkaline, using metallic anodes corresponding to the base required. The production of oxide of lead will serve as an illustration. Soft lead anodes are placed in a neutral or weakly acid solution of a sulphate, borate or phosphate, or in a weak alkaline chloride solution, or in solutions as above, to which specified quantities of nitrates, acetates, chlorates, etc., have been added. The passage of the current leads to the formation of a fine, chemically-pure anhydrous superoxide. Reckoning an eighth of a penny per ampere hour, the cost of producing 220lbs. is said to be three shillings.

Improvements in Detergent Compounds. R. Armstrong Cadley, Preston. Eng. Pat. 18,891. October 5, 1894.

Dry soaps, polishing soap, and detergent powders are obtained by preparing a dry ammonia soap and using it as the basis of several other detergent compounds. The ammonia soap is made from 28 parts of oleic or stearic acid, 70 parts sulphate of ammonia, 7 parts of sodium carbonate, and 4 of water. Detergent powders are obtained by mixing ammonia soap with hydrated carbonate of soda in the proportion of 15 of the former to 100 of the latter. For wool washing, a soap which, on solution, liberates free ammonia is obtained by mixing carbonate of soda and ammonia soap in the proportions of their chemical equivalents.

Improved Dyewood Extractor. H. S. Wilkinson, 22, Rhodes-street, Halifax. Eng. Pat. 22,174. November 16, 1894.

An extractor made of skeleton iron or other frame covered with copper, zinc or iron gauze is suspended in the dyeing vat. The log-wood or other dyewood is thus extracted, but the pieces do not come in contact with the material being dyed or escape from the vat into the sewers, etc. There are four drawings showing the construction and application of the extractor.

OUTPUT OF BRITISH MINERALS.

THE Home Office has issued the annual statistics showing the output of minerals produced in the United Kingdom and the Isle of Man during last year (1894), from which the following has been specially abstracted:—

The total value at the mines and works of the thirty-three different minerals which the country has produced was £77,898,938., an increase of £7,231,287. as compared with 1893. Coal and iron ore contribute chiefly to this increase, also alum shale, £496. against £264. in 1893; gold ore, £13,573. against £7,657., and salt, £763,629. against £735,222. There has naturally not been much variation in the habitat of the minerals, but in one or two cases changes have taken place. Soapstone finds a place for the first time, the production being 10 tons at the works at Donegal. Arsenic is no longer refined in Glamorganshire. As in the case of 1893, there was no antimony, cobalt, or nickel ore raised. Flints continue to be worked at Brandon, but the output has decreased from 4½ million flints to 3½ million. Gold ore is being raised and treated at four works in Merionethshire. Pyrites are worked in a small way at one mine in Wales and two in Ireland. Manganese ore is produced at four Welsh mines, where it is found in a bed of earthy carbonate, intercalated among grits and conglomerates of the Cambrian period. The total production of oil shale shows an increase of about 30,000 tons, but Staffordshire, the principal producing county outside Scotland, turned out only 2,602 tons as against 8,000 in 1893. The production of petroleum has almost ceased. The imports of petroleum, however, have again increased on the whole, Russia contributing less than in 1893. The actual figures for 1894 were: Russia 33,020,826 gallons, America 129,118,671, and other countries 862,765, making in all 163,002,262 gallons. Phosphate of lime shows even more clearly than

before the effect of foreign competition, while the recent opening up of fresh deposits in Algeria adds additional gloom to the outlook. In 1893 the production was nearly a fourth of that in 1892. In 1894 it was less than a fourth of even the small production of 1893. On the other hand the imports, chiefly from the U.S.A. and Belgium, show a total increase from 323,527 tons in 1893 to 380,269 in 1894. Sodium is now made at three works, situated at Hebburn-on-Tyne, Patricroft, near Manchester, and Oldbury, near Birmingham. No information as to the amount produced is obtainable. No Wolfram ore has been produced, the only mine working in Cornwall having been closed.

In the table that follows the quantities and values for 1894 are given, while, for the sake of comparison, the quantities for 1893 are added. The net value shows an increase, but in regard to quantity, out of the total of 33 items 17 show a decrease and 16 an increase, against eight increases in 1893. Many items that in 1893 swelled the total now figure on the other side (c.f. *C. T. J.* 378, p. 96). Only arsenic and strontium nitrate showed an increase in 1893 as well as in 1894, so that six items that showed an increase in 1893 now appear among the decreases. The following are the returns:—

TABLE I.

GENERAL SUMMARY OF THE MINERAL PRODUCE OF THE UNITED KINGDOM AND THE ISLE OF MAN.

Description of Mineral.	Quantity.	Quantity.	Value, etc.
	1893.	1894.	£
Alum clay (bauxite) .. Tons	8,740	7,970	5,618
Alum shale "	2,115	3,972	496
Antimony ore "	—	—	—
Arsenic "	5,976	4,801	48,614
Arsenical pyrites "	3,036	3,288	3,823
Barytes "	22,343	20,656	21,410
Bog ore "	10,747	7,803	1,951
Clays (excepting ordinary clay) "	3,065,208	3,263,768	823,701
Coal "	164,325,795	188,277,525	62,730,179
Copper ore "	5,346	5,752	13,909
Copper precipitate "	230	241	2,313
Fluor spar "	215	126	69
Gold ore "	4,489	6,603	13,573
Gypsum "	143,486	153,450	66,355
Iron ore "	11,203,476	12,367,308	3,190,647
Iron pyrites "	15,837	15,523	8,042
Jet Lbs.	888	479	48
Lead ore Tons	40,808	40,599	266,995
Lignite "	3,264	334	83
Manganese ore "	1,336	1,809	740
Ochre, umber, etc. "	10,534	8,516	14,040
Oil shale "	1,956,520	1,986,385	496,596
Petroleum "	260	49	92
Phosphate of lime "	3,300	700	1,277
Salt "	1,924,029	2,235,912	763,629
Slates and slabs "	438,993	461,673	1,171,366
Soapstone "	—	10	45
Stone, etc. "	—	—	7,695,716
Strontia sulphate Tons	5,812	6,823	1,962
Tin ore "	13,689	12,910	487,523
Uranium ore "	25	19	815
Wolfram "	22	—	—
Zinc ore "	23,754	21,821	67,311
Total "	—	—	£77,898,938

A closer inspection of the above returns shows that salt has turned the tables on the past six years, the total being the largest as regards quantity since 1888. With the exception of 1893 the total value is the lowest year there has been since 1888. Gypsum also shows a good advance. The increased production of oil shale is pleasing, and promises better things for the shale oil industry.

In addition to the general summary of the mineral products, the returns contain tabulated details of the items above named in Table I., from which particulars we cull the following figures: The highest monthly price for best selected British copper during 1894 was £47. and the lowest £41. 2s. 6d., the average price for the year being £43. 12s. 8d., while the corresponding figure for foreign copper (Chili bars) was £40. 9s. 6d.

Some interesting figures as to the amount of burnt cupreous iron pyrites which have been treated at the 18 different extraction works are supplied by Mr. T. W. Bird, of Liverpool. The total amount of burnt ore treated in 1894 was 309,268 tons, the estimated yield being 1,790 ounces of gold, 311,413 ounces of silver, and 14,013 tons of metallic copper.

The following table shows the amount of manganese ore imported into the United Kingdom, the ore being obtained from sources than those included in the foregoing statistics:—

TABLE II.
MANGANESE ORE IMPORTED INTO THE UNITED KINGDOM

Countries whence Imported.	1894.	
	Quantity.	Value.
	Tons.	£
From Australasia	2,571	5
British North America	1	—
Russia	58,809	146
Sweden	308	—
Belgium	—	—
France	3,005	7
Italy	1	—
Portugal	6,848	17
Spain	7,684	11
Turkey	3,085	7
United States of America	—	—
Chili	29,903	8
Other countries	15,766	4
Totals	127,981	£33

The importance of the shale oil industry fully warrants the publication of the next table that gives the output from mines which under the Coal Mines Regulation Act, thus causing the total slightly below the figures for the total production in Table I. United Kingdom and Isle of Man:—

TABLE III.
PRODUCTION OF OIL SHALE.

County.	Quantity.	Value.
	1894.	£
	Tons.	
ENGLAND AND WALES.		
Cumberland	—	—
Flintshire	1,374	—
Staffordshire, North	2,602	—
Yorkshire, East and West Ridings.	—	—
Totals	3,976	—
SCOTLAND.		
Edinburghshire	709,141	—
Fifeshire	—	—
Lanarkshire (East)	86,881	—
" (West) and Renfrewshire	15,402	—
Linlithgowshire	—	—
Renfrewshire (included with West Lanarkshire)	1,168,488	—
Stirlingshire (East)	2,497	—
Totals	1,982,409	£49

Now that so much, in fact almost all, the phosphate of lime from abroad, the following table of imports is more interesting than the statement of the actual home production. The chief imports have been from the United States of America, Belgium and France:—

TABLE IV.
IMPORTS OF PHOSPHATE OF LIME.

Countries whence Imported.	1893.	
	Quantity.	Value.
	Tons.	£
Belgium	62,298	7
France	34,866	4
Portugal	—	—
United States of America	195,785	21
Dutch West India Islands	5,636	—
British North America	5,068	—
British West India Islands	7,690	—
Other Countries	12,184	—
Totals	323,527	£38

turns are more than usually interesting, as the production for the year is more than for several years previous. The following table shows the returns in 1893 and 1894:—

TABLE V.
QUANTITY AND VALUE OF SALT (ROCK AND WHITE) EXPORTED FROM THE UNITED KINGDOM.

To which Exported.	1893—	1894.	
	Quantity.	Quantity.	Value.
	Tons.	Tons.	£
Norway	14,015	20,460	10,091
Sweden	24,746	21,109	11,503
Denmark	37,956	35,419	15,895
Belgium	22,892	21,167	11,900
France	25,157	17,736	5,433
Germany	28,325	34,399	21,277
Italy	35,755	37,222	46,579
Spain	5,718	8,535	7,944
Portugal	244,020	328,921	226,781
India	48,976	57,569	69,199
China	70,022	69,790	51,371
Japan	59,862	96,263	99,426
United States	4,648	6,430	8,166
Other Countries	72	11	121
Total	1,620	3,045	3,203
Value	8,395	6,277	7,196
Quantity	3,956	4,646	8,020
Total	636,135	768,999	604,105

Statement of the importance of the minerals imported from the following abstract of the summary of the mineral production of the British Colonies and possessions. Owing to the fluctuation of the returns are always a year behind those for the year. The figures as under are therefore for 1893:—

TABLE VI.
STATEMENT OF MINERALS AND CERTAIN METALS IN THE BRITISH COLONIES AND POSSESSIONS.
Abstract of Summary.

Description of Mineral.	1893.	
	Quantity.	Value.
Coal	Tons 5,815*	£ 65,096†
Iron ore	" 10,670,558*	4,370,734*
Gold	" 26†	305†
Silver	Ozs. 3,781,140*	13,984,610*
Platinum	Tons 174,075†	41,672†
Mercury	" 8,317†	510,775†
Antimony	" 2,951*	10,273*
Lead	Cwts. 23†	14,404†
Copper	Tons 1,783†	426,647†
Aluminum	" 955*	3,639*
Flint	" 55,660†	101,220†
Crude Petroleum	(Galls. 10,359,812*	53,151*
Refined Petroleum	Brls. 798,406*	171,439†
Lime	Tons 15,010†	26,582†
Other Minerals	—	370†
Total	Tons 52,270†	36,088†
Value	" 903,479†	370,337†
Quantity	" 4*	48*

* Increase. † Decrease as compared with 1892.

In space we can only briefly abstract these returns, which are a statement of interest to the chemical and mineral trades. We are pleased to the best of our ability, however, to give our readers information on direct application.

NATURAL GAS WELLS OF NIAGARA.—Protection runs to the wells in Canada. Enormous quantities of natural gas from Niagara, in Ontario, are being sold in New York State, the city of Buffalo, and the Dominion Customs Department has decided to impose an export duty upon this commodity, in order to protect the output. It is feared that unless this is done the supply will be exhausted.

Trade Notes.

ANOTHER NAPHTHA SPRING AT BAKU.—According to advice from Baku this week a naphtha spring, yielding 300,000 poods of naphtha daily, has burst out there.

THE TEESIDE SALT INDUSTRY.—It is reported that Messrs. Brunner, Mond and Co., Ltd., will shortly take over the salt works of Messrs. Bell Bros., on the north bank of the Tees.

GOLD PRODUCTION.—United Langlaagte: Results of crushings for the month of September: Number of days running, 27; number of stamps, 60; crushed, 4,186 tons; gold won, 887 oz. Cyanide process: Tons treated, 3,750; gold won, 1,429 oz.—*Ferreira:* Tons crushed, 4,813; bar gold extracted, 4,872 oz.; concentrates caught, 165 tons; assay value of concentrates, 7 oz. per ton. Cyanide works—Bullion produced from tailings, 1,412 oz.

GOLD PRODUCTION IN THE RAND.—The Rand output of gold for September, which amounted to 194,764 oz., as compared with 203,573 oz. in August, may, at first sight, seem a little disappointing. It must be remembered, however, that there were five Sundays last month, and therefore there were only twenty-five working days against twenty-seven in the previous month. Compared with September, 1894, the increase in the output is 18,057 oz.

THE NEW IRONWORKS ON THE DEE.—Further definite information is now known concerning the proposed works opposite Connah's Quay. It is now stated that Messrs. John Sumner and Sons, of Globe Ironworks, Stalybridge, have purchased upwards of 43 acres of land adjoining Hawarden Bridge for the purpose of constructing extensive ironworks. This is due to the construction of the Manchester, Sheffield, and Lincolnshire Railway and the Dee and Birkenhead Railway from Hawarden Bridge.

NEW IRON WORKS ON THE DEE.—It is understood an influential syndicate are about to construct extensive iron works on the marsh on the Cheshire side of the River Dee, opposite Connah's Quay. For many years there has been extensive trade in iron ore, which was brought in vessels from Spain and then conveyed by rail to Wrexham and other districts. It is now intended to smelt the ore on the spot, and building operations are to be commenced at once, as notice to quit has been given to the Hawarden Golf Club.

THE FALLS OF FOYERS.—At a meeting of the Inverness County Road Board on Wednesday afternoon a question raised by the operators of the British Aluminium Company, as to the alteration of the roads and the raising of the levels of three lochs in the Foyers district, was again discussed. The objections to the scheme, which dealt with the alleged destruction of the Falls of Foyers, were stated to be greatly exaggerated, and the Board unanimously agreed to approve of the alterations and works proposed. About 300 petitions from various societies and bodies in England were submitted, but they were not entertained.

DULY QUALIFIED (?)—During a recent prosecution of photographic chemists for selling poisons in Edinburgh without "being duly qualified pharmaceutical chemists," an interesting piece of information was given by one of the witnesses for the prosecution. This individual—a "duly qualified" chemist—informed the court that he thought one ounce of bichloride of mercury was enough to "decimate half the town, it was so deadly"—or, in other words, that one grain of the salt would be more than enough to kill some thirty of Edinburgh's citizens. It seems somewhat difficult to reconcile this statement with the fact that the medicinal dose given in the British Pharmacopoeia is one-eighth of a grain.

THE MERSEY SALT SHIPMENT.—During the past month there has been marked activity in trade with the United States, and as shipments to other markets have been fairly satisfactory, the total export for September has been above the average of recent years. The exports of salt to the United States for September amounted to 23,487 tons, compared with 10,686 tons in September, 1894; and the previous shipments this year were 68,070 tons against 38,788 in the same period of 1894. Small decreases are noticed in the September shipments to British North America, Africa, Australasia and Pacific Islands, and to other parts of the United Kingdom, increases being reported in the shipments to the West Indies, Central and South America, Asia (14,619 as compared with 8,284 tons), and Europe generally. The total shipments for September were 61,000 tons, compared with 43,458 tons in September, 1894. Of this 53,493 tons were shipped from Liverpool, compared with 35,382 tons in September, 1894, and 7,507 tons from Runcorn and Weston, compared with 8,176 tons in September, 1894. The total previous shipments this year were 490,130 tons, compared with 502,305 tons for the same period of 1894. Of this 372,079 tons were from Liverpool, compared with 393,405 tons, and 118,051 tons from Runcorn and Weston, compared with 108,900 tons in the corresponding period.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are decidedly firmer, 90's now standing at 1s. 3d. and 50/90's at 1s. 2d. Carboic acids are steady. There is a slight fall in the price of 60% crude, but 40% crystals still stand at 5¼d. Naphthas are firm, crude being dearer at 5¼d., and solvent steady at 1s. 2d. Creosote is now quoted 1½d. Anthracene rules firm at 11½d. for 30% A and 8½d. to 9d. for 30% B. Pitch steady, f.o.b. East Coast at 38s. to 38s. 6d., prompt.

There has been a marked improvement in sulphate of ammonia during the past week, both in regard to prices and the demand. Values have steadily risen for spot and forward in a very satisfactory manner. Forward business has been fairly plentiful in spite of the advances demanded by sellers. Beckton value to-day is £9., London outside makes £9., Liverpool £9., Hull £9., and also Leith £9. Forward to May has been actually done at £9. 7s. 6d. to £9. 12s. in the North, and London quotation for January-April is £9. 10s. Nitrate is quiet.

LIVERPOOL MINERAL MARKET.

Our market still continues firm, with an upward tendency. Manganese: Arrivals have improved, mostly going into consumption, and the price is steady. Ground manganese continues in full demand at £6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore is in increased demand at firm but unaltered prices. Chrome ore: Arrivals are few, and the demand continues strong, with firm prices as last quoted. Bauxite continues brisk at 20s. per ton for first quality, 16s. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. French chalk: There have been some arrivals, which have been delivered against forward contracts, and stocks have been further drawn upon, so that prices continue strong at 70s. to 75s., 80s. to 90s., and 100s. to 110s. per ton for "Angel White" brands, according to quality. Plumbago: Arrivals are small, and with stocks very low, prices are firm at £6., £8., and £10. per ton, according to quality. Wolfram and scheelite continue in steady demand, with a tendency to advance in price. Arsenic continues firm at full prices. Fuller's earth is in fair demand at unaltered prices: 50s. for lump, and powdered at 75s. to 80s. per ton. Umbers and ochres meet with a brisk demand at recent prices; prime umber being done at 40s. per ton. The demand for carbonate of barytes is a little brisker for the better qualities, but sulphate is scarce and bringing full prices. Bog ore: Stocks are being reduced, the weather interfering with fresh shipments; prices are firm at 20s. to 25s. per ton, c.i.f.

REPORT ON MANURE MATERIAL.

There is more inquiry, indicating a disposition on the part of manure manufacturers to be making further purchases, but so far the business done has been at the lowest level of prices touched. The actual position of mineral phosphates is unchanged, but, owing to the closing of further mines, shippers of high grade Florida rock are asking higher prices and refusing offers which a month back they would have accepted. Quotations for South Carolina River, Peace River, and Algerian phosphates are unchanged. Further business in River Plate bones has been done, it is understood, at about late prices. £4. 2s. 6d. is nearest value for small cargoes, and £4. would probably do for those of large size. Crushed Kurrachee bones, arrived, are selling at £4. ex quay Liverpool, and £4. 1s. 3d. would do for shipment. Bombay bone meal on quay has also been sold at £4. per ton, ex quay, and that is nearest closing value, although some shippers are asking considerably more money. Nitrate of soda is still very quiet. The value of ordinary quality on spot is 7s. 7½d. per cwt., and of fine quality 7s. 9d. Late autumn shipment cargoes, ordinary quality, are scarcely worth more than 7s. 7½d. per cwt.

MISCELLANEOUS CHEMICAL MARKET.

The demand for alkalis is well sustained, and prices all round are steady. 58% alkali remains firm at £3. 7s. 6d. per ton, bags, f.o.r. makers' works, and Leblanc soda ash 1d. per degree, in casks, f.o.b. Caustic soda is in more active request for prompt and early shipment, and current quotations are as follow:—F.o.b. Liverpool, 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 60%, £6. 10s. per ton, 10-ton lots and upwards. Bleaching powder in very active demand for export, price at Liverpool is £7. 10s., f.o.b., in usual export casks; spot delivery, f.o.r., £7. per ton, softwoods. Soda crystals are unaltered. Saltcake is without material change for prompt delivery, but much firmer for 1896, nearest spot value 20s. to 21s. per

ton at works, Lancashire. Chlorate of potash 4¼d. per lb. Chlorate of soda 6¼d. to 6½d. per lb. Sulphate of copper is market at £16. 5s., f.o.b. For potash, caustic and carbonate, a steady demand, and prices are well maintained. Yellow pruss potash at 7½d. to 7¾d. per lb. White powdered arsenic still very and price firm at £15. 5s. nett, f.o.r. Garston. In acetates of brown and grey, there is more disposition to purchase, but price unaltered. For acetate of soda spot quotations are firm at £14. Acetates of lead in all grades rather easier. Sulphur still offers low price. Nitrate of soda slightly easier on the spot at 7s. 9 business forward done at 7s. 10½d. per cwt. Sulphocyanic quiet, and prices unchanged. Business in chemicals generally reported rather better from several centres.

LIVERPOOL OIL AND COLOUR MARKET.

OILS.—There is more doing again in palm oil, the market firm. Soft oils have been selling freely at £20 5s. to £23. 10s., and Accra £20. 2s. 6d. per ton. Olive is unchanged. Lins maintained the improvement of last week, with the result that have risen, Liverpool makes in export casks now being quoted to 22s. per cwt. Cottonseed keeps very much the same American at 17s. 6d. to 17s. 9d., and Liverpool refined at 17s 18s. 3d. per cwt. Holders steady. Castor oil is firm, with demand. Good seconds Calcutta stands at 23½d. to 24½d. pressure French 2¼d. to 25½d. per lb. Tallow is firm and alteration. Resin is steady, all grades being steadily held common in particular is very firm, despite the high price. Sturpentine are in fair demand at last week's quotation of 20s. cwt. Petroleum quiet: American 6d. to 7½d., and Russian 5½d. to 6d. per gallon.

COLOURS are steady, without alteration in Ochres: Oxfordshire, common, £10., medium, £12., best Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. 8 unchanged. Venetian red, £6. to £10. Cobalt: Prepared 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; fines Zinc oxide, £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

OILS.—Business here during the week has suffered somewhat the holding of the annual fair, which practically monopolises it for about four days. During the week the arrivals of seed have been heavy. The imports of linseed have been 7,030 qrs., viz.: F Petersburg, 5,780 qrs.; Liban, 1,000 qrs.; and Catania, 250 qrs. import of cottonseed has been 2,490 tons, from Alexandria. Lin port of rapeseed has been 1,883 qrs., from Kurrachee. Lin remains firm and scarce upon the spot, being quoted 19s. naked; Oct.-December, 19s. 1½d.; January-April and May offer at 18s. 7½d., with buyers at 18s. 6d.; boiled and refined £1. to £1. 10s. per ton extra. Refined cottonseed has declined 5s. per ton on the spot, closing with buyers at 15s. 9d., November-April, 15s. 10½d. to 16s.; casks 17s. 6d., and barrels 30s. per ton extra. The exports for the week have: Linseed oil, 1,160 cwt.; refined cotton oil, 3,460 cwt. Ca 2¼d. per lb. for first pressure. Spirits of turpentine, 21s. 6 from £32. to £35. per ton. Tallow has advanced £2. per ton oil from £17. to £19. per ton. Sicative boiled oil, £13. Liquid soap, £16. per ton. Wool oil for laiding purposes, 1 ton.

CAKES.—Linseed cakes unchanged. 95% pure, £6. Russians, £5. 7s. 6d. to £5. 15s. per ton; oil cakes, £5. 2s. per ton. Cotton cakes: Owing to an improving demand and inadequate supplies of spot and near seed, cakes are dearer; best £4. 2s. 6d.; December-April, £3. 12s. 6d. to £3. 15s.; £3. 15s., spot. Rape cakes unchanged.

PAINTS.—Manufacturers have been partially closed this week, owing to general holidays, and business is somewhat wane. Prices are unchanged.

TYNE CHEMICAL REPORT.

The chemical market is rather firmer, and stocks generally very low. Bleaching powder and sulphur in better demand crystals are quoted at £2. 5s. per ton, gross weight, locally: caustic, £9. 10s. per ton. Other articles as under:—

Bleaching powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. nett; caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%,

nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ton; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 10s. nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 60%, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; 80° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 5s. per ton, nett; do., 2 cwt. bags, £2. 5s. per ton, nett weight; of potash, 5d. per lb., less 6%; pearl hardening, ton, nett; pure white sulphate of alumina, £4. 2s. 6d. nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, per ton, nett; carbonate of alumina, £28. 15s. per ton; luminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £1. per ton, nett.

—South Durham salt is steady, at 9s. 6d. per ton for common, per ton for block.

S.—The coal trade is still quiet, though shipments during the week show an improvement. Coke is in strong demand. To-day's prices are as under:—Best Northumbrian steam, 8s. 6d. to 8s. 9d. second qualities, 7s. 6d. to 7s. 9d. per ton; small steam, 6s. 4s. per ton; gas coal steady, at 6s. 6d. to 6s. 9d. per ton; coals in rather better demand, at 10s. to 10s. 6d. per ton; at 14s. 6d. to 14s. 9d. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

Trade of ammonia still retains the improving turn entered on fortnight ago, and may be said to be now a little stronger than week ago. The improvement is not, however, one of a very decided, and prompt value still rules under £9., though now only by 10s. Dealings range between £8. 16s. 3d. and £9., to circumstances, and it seems to be the case that the larger sales done at least in one instance. The feeling as regards the basis is also stronger, and transactions involving deliveries of next year are being done at a range of from £9. 7s. 6d. to 10s. 6d. Mineral oils and paraffins are all on report as satisfactory of tone, at late values, well upheld. The local section of the market in general chemicals is experiencing some slight reflection on account of the gravity of the outlook on the great ship-chemistry industry, but otherwise its condition is fairly good. Bleacher is in large call for the moment, and has advanced. Soda ash is also scarce. Sulphate of copper is dearer.

Prices current are:—Soda crystals, 37s. 6d. nett, Tyne; 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, 4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett, Tyne; caustic soda, white, 76° £9. 5s., 70/72° £7. 15s., 60/62° and cream 60/62° £6. 10s., all nett, Liverpool; bleaching 6. 7s. 6d. to £7. nett, Tyne; saltcake, 22s. 6d.; borax, English, 20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; of potash, 4½d. nett, for Scotch and English deliveries (for 4d. nett, f.o.b. Glasgow); bichromate of soda, 3¼d. nett, for 4d. English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); of potash, 4¾d. less 5%, Liverpool; nitrate of soda, 7s. 6d. sulphate of ammonia, £8. 17s. 6d. to £9., prompt, f.o.b. ammoniac, first and second white, £39. and £37. nett, any phate of copper, £16. 15s., less 5%, Liverpool; paraffin 1d., 2½d., and soft, 1½d. to 2½d. per lb.; paraffin wax 120° ed, 2½d. to 2¾d.; paraffin spirit (naphtha), 8d. per gallon; oil (burning), No. 1 6½d., and crystal 6¾d., at works, for 10s. (English sales about 1d. lower); ditto (lubricating), 865° 0 to £5.; 885° £5. to £5. 5s., and 890/895° £5. 10s. to £6. week's imports of sugar at Greenock were 13,216 baskets refined, and 6,500 bags beet unrefined.

New Companies.

Phosphate Deposits of Norway, Ltd.—CAPITAL £1,500., in shares of £1. each. This company has been formed to acquire and work certain phosphate mines in Norway. The registered office is 20, Bucklersbury, London, E.C.

Shrewbridge Brine Co., Ltd.—CAPITAL £12,000., in £1. shares. This company has been formed to enter into an agreement and to carry on the business of salt manufacturers and brine merchants. The subscribers to the memorandum of agreement are:—W. H. Gramshaw, 1, Short's-court, E.C., stockbroker; G. R. Pulling, 27, Copthall-avenue, E.C., secretary; R. Kingdon, 7, Great Winchester-street, E.C., clerk; J. L. Robbins, 21, Golden-square, W., clerk; B. Townsend, 23, Snelbourne-road, S.W., stationer; A. W. M. Colson, 35, Hornsey-street, Holloway, clerk; J. A. Baker, 37, Mildmay Chambers, Union-court, E.C., gentleman.

Matthew's American White Lead Co, Ltd.—CAPITAL £25,000. in £1. shares. This company has been formed to carry on the business of smelters, white lead manufacturers, chemists, drysalts, etc. The subscribers to the memorandum of association are:—S. C. Pratt, Stanmore, Buelah Hill, S.E., lieutenant-colonel; R. Bedford, "Marston," South Ealing, gentleman; E. S. Roche, 204, Lancaster-road, W., solicitor; G. F. Fall, 31, Lambotte-road, South Hampstead, solicitor; S. Tonkin, 46, Pembroke-square, Kensington, gentleman; E. W. Street, 95, Woodlands-road, Ilford, gentleman; T. E. Fuller, 272, Essex-road, N., gentleman.

Reading Paint Co., Ltd.—CAPITAL, £8,000., in £5. shares. This company has been formed to acquire and carry on the business of paint, colour, and varnish makers, now carried on under the title of the Reading Paint Co., Reading. The subscribers to the memorandum of association are:—J. Bottrill, Eldon-road, Reading, builder; W. G. Millar, 10, High-street, Reading, architect; W. McCowan, 207, King's-road, Reading, brewer; J. T. Bottrill, Denmark-road, Reading, builder; Mrs. W. McCowan, 207, King's-road, Reading; Mrs. J. Bottrill, Eldon-road, Reading; Mrs. E. Bottrill, Denmark-road, Reading.

Eglinton Chrome Tanning Co, Ltd.—CAPITAL £7,000., in £1. shares. This company has been formed to acquire the Chrome Tannery from W. J. A. Donald, and to carry on the business of tanners, etc. The subscribers to the memorandum of association are:—W. J. A. Donald, 70, Great Clyde-street, Glasgow, chemical manufacturer; A. Martens, 8, Firhill-road, Glasgow, tannery manager; H. Winslow, 8, Firhill-road, Glasgow, chemist; J. Murdoch, 70, Great Clyde-street, Glasgow, salesman; W. Donald, 70, Great Clyde-street, Glasgow, clerk; R. Donald, 40, Lilybank Gardens, Glasgow, student; C. McArthur, 149, W. George-street, Glasgow, writer.

W. Drummond and Son, Ltd.—CAPITAL £120,000., in £5. shares, divided into 12,000 preference and 12,000 ordinary. This company has been formed to acquire, as a going concern, the business of Drummond and Sons, Dublin, and to trade as seed, potato, manure, feeding stuff, and implement merchants. The subscribers to the memorandum of association are:—D. Drummond, Dunfillan, Rathgar, seed merchant; W. H. Drummond, 58, Dawson-street, Dublin, merchant; P. H. Drummond, 58, Dawson street, Dublin, merchant; J. M. Drummond, King-street, Stirling, seed merchant; P. Drummond King-street, Stirling, seed merchant; E. J. Drummond, Aberfoyle, Rathgar, married woman; K. H. Drummond, Ashmere, Rathgar, married woman.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

S. DAV and R. DAV, salt manufacturers, &c., North Shields, under the style of Ogilvie and Son.
J. H. DUNN, C. B. DUNN, R. M. DUNN, J. G. DUNN, M. DUNN, A. S. HUGHES, and A. M. HUGHES, china clay merchants and manufacturers, Retew, St. Enodas, Cornwall, under the style of Robert Dunn and Co., and the Retew Clay Works, as far as regards Messrs. J. H., C. B., R. M., and J. G. Dunn.

IMPORTS OF CHEMICAL PRODUCTS

AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

ending October 5th.

of Lime—

217 pks. Lister & Biggs

109 pks. A. & M. Zimmermann

Acetone—

Holland, 10 pks. 1 dm. T. H. Lee

4 Phillipps & Graves

Alkali—

Belgium, 56 c. Arnati & Harrison

Germany, 50 M. D. Co.

Alum—

Germany, 80 pks. Beresford & Co.

Holland, 6

" 139 R. W. Greeff & Co.

Alumina—

Belgium, 51 pks. R. W. Greeff & Co.

Ammonium Chloride—

Holland, 16 pks. H. Lorenz

J. Owen

R. W. Greeff & Co.

Anthracene—

Holland, 163 pks. Burt, Boulton & Co.

Antimony Ore—

France, 50 t. L. & I. D. Jt. Co.

Italy, 50 J. Bamber

Asbestos— Holland, 420 Robinson, Roberts & Co. Italy, 350 Brit. Asbestos Co. Canada, 420 W. Byford Italy, 590 Cape Asbestos Co.	Dried Blood— N. Zealand, 108 t. Odams Manure Co. " 48 W. Friedlaender	Guano— Cape, 1,068 t. D. de Pass & Co. Lead Acetate— Germany, 13 pks. F. Boehm	Saltpetre— Germany, 50 cks. H. Hall & Son " 67 P. Hecker & Co. E. Indies, 168 bgs. Lucas & Spencer's " W. Co.
Barium Chloride— Germany, 54 pks. Petri Brs.	Dyestuffs— Argols Italy, 1,168 pks. B. Jacob & Sons Gochineal Canaries, 12 pks. J. W. Borland " 5 F. Huth & Co.	Lime— Belgium, 250 t. West & Penrose Magnesia— Holland, 50 pks. Beresford & Co.	Sodium Bichromate— Holland, 61 cks. C. Tennant, Sons & Co.
Barytes— Germany, 19 cks. J. Kitchin, Ltd. Belgium, 70 A. Zumbeck & Co. Holland, 66 Magee, Taylor & Co. " 9 J. Dickinson & Co. " 265 pks. W. Harrison & Co.	Extracts Germany, 4 pks. L. & I. D. Jt. Co. Denmark, 11 Tegner, Price & Co. France, 20 Beresford & Co. U. States, 100 Skilbeck Bros. " 100 L. & I. D. Jt. Co. France, 30 Union L. Co. " 104 L. J. Levinstein & Sons " 20 Bennett S. S. Co.	Manure— E. Indies, 100 t. F. Hodgkinson & Co. Germany, 280 Lawes Manure Co. " 197 Odams Manure Co. Cape, 9 D. de Pass & Co. Germany, 277 F. W. Berk & Co. E. Indies, 400 A. Hunter & Co.	Starch— Germany, 1,040 pks. Horne & Co. Holland, 182 T. H. Lee " 970 Little & Johnston Belgium, 40 T. Ronaldson & Co. " 80 J. Barber & Co. Holland, 145 Phillips & Graves Belgium, 200 Leach & Co. " 240 Sawyer, Sons & Co. " 318 F. Clayton & Co. " 80 Taylor Brs. U. States, 40 R. G. Hall & Co. Belgium, 32 Anderson & Colman Holland, 20 Hammond & Co. Belgium, 124 J. Barber & Co. " 520 T. H. Lee France, 140 E. & T. Pink U. States, 375 Carron Co. Holland, 120 Oswego Co.
Bone Meal— E. Indies, 151 t. A. Hunter & Co.	Gambler Singapore, 423 pks. J. Greig " 774 E. Boustead & Co. " 450 Brinkmann & Co. " 390 W. Balchin " 1,947 N. S. S. Co. " 2,091 Ross & Deering	Methyl Alcohol— Germany, 8 dms. Stein Brs. Holland, 14 A. Chapman	Superphosphate— Belgium, 126 bgs. H. Hill & Sons
Camphor— Germany, 1,332 pks. Prop. Hay's Wf.	Indigo E. Indies, 4 cts. Arbuthnot, Latham & Co. " 26 Croysdale & Co. " 22 Park, Macfadyen & Co. " 26 Blyth, Greene & Co. " 39 Parry & Co. " 20 Forbes, Forbes & Co. " 13 H. Johnson & Son " 65 L. & I. D. Jt. Co. " 14 Ross & Deering	Mica— Canada, £39 W. M. Smith & Sons E. Indies, 200 G. W. Wheatley & Co. U. States, 130 C. Ward E. Indies, 30 W. M. Smith & Sons	Sulphur— Italy, 27 t. J. Greig " 20 H. S. Smith " 70 G. Boor & Co. " 30 Italy, 10 J. Puddy & Co. " 3 Typke & King " 5 Thames S. T. & L. Co. " 100 Johnson & Hooper
Caoutchouc— Germany, 77 c. L. & I. D. Jt. Co. " 25 Anderson, Weber & Smith " 400 Wallace Brs. " 50 Prop. Bull Wf. " 9 Hale & Son Singapore, 100 Huttenbach & Co. Madagascar, 93 Procter Brs. E. Indies, 26 Lewis & Peat Belize, 1 L. & I. D. Jt. Co. P. E. Africa, 39 Zanzibar, 70 Clarke & Smith P. E. Africa, 16 W. M. Smith & Sons Madagascar, 34 Kleinwort, Sons & Co. Mauritius, 330 Hammond & Co. Penang, 51 Prop. Bull Wf. Zanzibar, 29 L. & I. D. Jt. Co. Singapore, 291 N. S. S. Co. " 340 H. A. Litchfield & Co. Madagascar, 4 L. & I. D. Jt. Co.	Logwood B. W. I., 98 t. W. Shelcott Myrabolams E. Indies, 1,366 pks. W. Shelcott " 1,366 R. G. Hall & Co. " 681 J. Allen & Co. " 666 Anderson, Weber & Smith " 700 Benekendorff & Co. " 1,366 L. & I. D. Jt. Co. " 1,000 A. B. Curtis & Co. " 6,772 Beresford & Co. " 491 Hoare, Wilson & Co.	Mica and Talc— Italy, £8 J. Sinclair & Son E. Indies, 62 W. M. Smith & Sons Austria, 40 C. May Molasses— U. States, 50 cks. 285 c. L. Sutro & Co. " 100 600 Deering & Robottom Naphthaline— Germany, 36 pks. Fleming's Oil and Chemical Co. Nitric Acid— Holland, 100 pks. H. Wallace & Co.	Stearine— Belgium, 126 bgs. H. Hill & Sons Talc— France, £40 G. G. Blackwell, Sons & Co. Tar— Belgium, 5 brls. Abby, Abby, & Co. N. Russia, 5,000 W. F. Malcolm & Co. " 150 Elkan & Co. Tartaric Acid— Holland, 40 pks. B. & F. Wf. Co. Italy, 12 Tartars— Italy, 18 pks. Howards & Sons
Castor Oil— France, 30 brls. Beresford & Co. " 50 F. V. Smythe & Co. Italy, 10 cks. Fellows, Morton, & Co., Ltd. Belgium, 35 J. T. Morton Italy, 40 Fuerst Brs. E. Indies, 119 cks. Ross & Deering Belgium, 49 Fuerst Brs.	Shumac Italy, 2,130 pks. J. Kitchin, Ltd. " 15 B. & N. Wf. Co. " 10 R. M. Cooke & Co. " 500 Harris Brs. " 73 H. Johnson & Sons Tanner's Bark Durban, 10 t. Arnati & Harrison " 119 A. & W. Nesbitt Belgium, 15 Leach & Co. " 21 France, 24 Sawyer, Sons & Co. " 10 Cleeve Hooper Turmeric E. Indies, 160 pks. Union L. Co. Valonia A. Turkey, 80 t. A. & W. Nesbitt " 20 Hoare, Wilson & Co. " 50 M. D. Co.	Paraffin Wax— U. States, 78 brls. H. Hill & Sons Phosphate— U. States, 100 pks. Seaward Brs. Pitch— N. Russia, 600 cks. W. M. Malcolm & Co. " 550 brls. Fellows, Morton, & Co. Plumbago— Ceylon, 156 brls. J. Thredder, Son, & Co. " 47 Doulton & Co. " 137 R. G. Hall & Co. " 6 cks. Cayzer, Irvine, & Co.	Superphosphate— Belgium, 50 t. Anglo-Contl. G. Wks. Talc— France, £40 G. G. Blackwell, Sons & Co. Tar— Belgium, 5 brls. Abby, Abby, & Co. N. Russia, 5,000 W. F. Malcolm & Co. " 150 Elkan & Co. Tartaric Acid— Holland, 40 pks. B. & F. Wf. Co. Italy, 12 Tartars— Italy, 18 pks. Howards & Sons
Caustic Soda— Germany, 5 c. A. White & Sons Belgium, 16 L. & I. D. Jt. Co.	Farina— Holland, 100 pks. J. Knill & Co. Belgium, 100 R. G. Hall & Co. France, 8 Flageolet & Co. U. States, 100 J. Barber & Co. " 20 Nvan Lessen Holland, 50 R. G. Hall & Co.	Potash— Canada, 45 pks. Charles & Fox Potassium Carbonate— Germany, 10 pks. C. Lamb & Co. Belgium, 50 c. J. A. Reid Potassium Hydrate— France, 20 pks. 4 brls. Spies Brs. & Co. Potassium Prussiate— " 10 pks. A. & M. Zimmermann Potassium Sulphate— E. Indies, 247 pks. G. H. Wilson & Sons Germany, 109 W. G. Blagden	Ultramarine— Germany, 3 cks. H. Brooks & Co. Holland, 4 cks. Hernu, Peron, & Co. " 4 cks. Haefner, Hilpert, & Co. Belgium, 2 W. Harrison & Co. Germany, 42 pks. J. Kitchin, Ltd. Varnish— U. States, 35 pks. Allan Brs. & Co.
Chemicals (otherwise undescribed) Germany, £15 5 cks. Phillips & Graves " 1 Brit. Anti-F. C. & P. Co. Holland, 10 pks. Beresford & Co. Belgium, 43 8 cks. T. Palmer Germany, 1 10 cks. T. H. Lee " £15 L. & I. D. Jt. Co. " 10 Craven & Co. " 2 Jensen & Nicholson Denmark, 5 Tegner, Price & Co. Belgium, 5 pks. T. H. Lee France, 1 R. Womersley & Son " 62 cs. Hernu, Peron & Co. Germany, 47 A. & M. Zimmermann U. States, 44 cks. R. Greening Belgium, £5 Beresford & Co.	Glucose— U. States, 50 pks. 300 c. C. Southwell & Co. Germany, 160 160 c. T. H. Lee " 15 125 J. Knill & Co. " 500 500 Baxter & Hoare U. States, 50 275 Ohlenschlager Brs. " 500 500 P. Windmüller & Co. " 500 500 E. Dixon U. S. A., 250 1,431 J. Newcomb " 2,991 6,749 L. Sutro & Co. " 50 280 H. C. Gittens " 500 1,000 Fellows, Morton & Co. France, 20 19 A. J. Smith Germany, 25 199 Bennett S. S. Co. U. States, 300 1,738 R. G. Hall & Co.	Pumice Stone— Italy, 82 c. Seaward Brs. " 22 t. W. J. Davies & Sons " 10 T. Hill Jones Pyrites— Spain, 1,049 t. Anderson, Anderson, & Co. Quicksilver— Italy, 100 btl. H. Bath & Son Rosin— U. States, 1,050 brls. Moore & Hole " 900 F. & S. Chiesman " 800 H. Hill & Sons Salt— Portugal, 160 t. Bumsted & Co.	Waste Salt— Germany, 50 t. Perkins & Hower " 10 F. W. Berk & Co., Ltd. White Lead— Belgium, 13 brls. D. C. Thomas & Sons France, 18 cks. J. Watts & Sons Germany, 40 D. Storer & Sons " 1 Spies Brs. & Co. " 16 W. Taylor & Co. Belgium, 15 brls. J. L. Lyon & Co. Wood Pulp— Sweden, 80 pks. Christophersen & Co. " 80 H. Johnson & Sons " 1,800 Henderson, Craig, & Co. Germany, 400 W. Friedlaender Belgium, 1,632 W. Smith Holland, 32 Hernu, Peron, & Co. Sweden, 160 C. S. Lovell Holland, 702 Phillips & Graves " 250 W. G. Taylor & Co. Norway, 367 Canada, 2,022 E. J. & W. Goldsmith
Copperas— Germany, 9 pks. A. & M. Zimmermann Cream of Tartar— France, 5 pks. M. Ashby, Ltd. " 2 G. Blackmore & Co. " 20 W. C. Bacon & Co. " 5 F. C. Devon & Co. Holland, 4 Kirkpatrick & Co. France, 10 B. & F. Wf. Co.	Glue— " £223	Saltpetre— Germany, 50 cks. H. Hall & Son " 67 P. Hecker & Co. E. Indies, 168 bgs. Lucas & Spencer's " W. Co.	Zinc Oxide— Germany, 50 brls. M. Ashby, Ltd. Holland, 50 J. Matten " 100 M. Ashby, Ltd. " 500 Soundy & Sons Zinc Skimmings— U. States, 5 t. W. Balchin

VERPOOL.

Week ending October 3rd.

of Lime —		
ork,	1,374 bgs.	
am,	2 bls.	
p,	100 bgs.	
ah—	6 bbls.	
9,	534 bgs	Argentine Meat Preserving Co.
Acid —		
h,	127 cks.	
of Lime —		
h,	572 bgs.	
iso,	1,520 bgs.	
W,	557	
ious —		
iso,	16 bls.	W. Brandts, Son & Co.
	29	J. H. Schroeder & Co.
acid —		
h,	44 cks.	
h,	1 cs.	
g,	4 cs.	
am,	25	7 pkgs.
rk,	25 bbls.	
e—	25 bgs.	W. Slater
rebilla		
so,	32 bgs.	R. Steinmann & Co.
	28	Palassie & Leste
	194	W. Macqueen
	43 cks.	German Bank of London
re,	500 bxs.	
Divl	361	
g,	119 bgs.	
gts	104 bbls.	De Clermont & Donner
	300	Oak Extract Co.
rk,	120	75 bxs.
h,	161 ps.	
178		Widow Duranty & Son
	1,892	Oetling & Co.
der	234 bls.	E. Boustead & Co.
re,	3,921	300 bgs.
ood	1 bdl.	E. Brownbill & Co.
in	1 cs.	
h,	50 bgs.	Raines & Porters
	3,360	105 bls.
	250	H. Rooke, Son & Co.
	60	J. Kitchen Ltd.
ila	200	J. Glynn & Son
	608 bgs.	Papayanni & Jeremias
	300	Barff & Co.
	2	G. Essayan & Co.
	600	Papayanni & Jeremias
	50 bgs.	Vander Veen & Bns.
am,	25 bls.	
Acid —		
h,	1 cs.	
k,	5 bbls.	C. Eliades
	160	
	300	T. M. Duche & Sons
	20 cks.	
	803 bgs.	

Rouen,	20 cs.	27	10 crts.	Co-op. W'sale Society, Ltd.
Rotterdam,	1		43 bgs.	R. J. Francis & Co.
Rouen,	4			Thesus & Stribel
Hamburg,	8			A. Gibbs & Sons
Genoa	4			W. & J. Lockett
Iodine —				
Valparaiso,	50	bbls.		
"	193	kgs.		
Manganese Ore —				
Huelva,	330	t.		
Mica —				
Newport News,	10	bbls.		Richards & Ward
Minium —				
Rotterdam,	21	cks.		
Ochre —				
Rouen,	9	cks.		R. J. Francis & Co.
Marseilles,	20	bbls.		
Paint —				
Boston,	50	cs.		Bahr, Behrend & Ross
Paraffin Scale —				
New York,	420	bbls.		Thompson & Bedford
Rangoon,	1,152	bxs.	16	bgs.
Phosphate —				
Ghent,	1,000	bgs.		J. T. Fletcher & Co.
Pitch —				
Boston,	6	bxs.		
Amsterdam,	8	cks.		
Marseilles,	48	bbls.		
Plumbago —				
Genoa,	100	bgs.		G. Huntriss
Potash —				
Rotterdam,	5	cks.		
Hamburg,	10			Bancroft & Co., Ltd.
Dunkirk,	9	22	dms.	
Pumice Stone —				
Messina,	20	bgs.		
Pyrites —				
Huelva,	2,017	t.		Matheson & Co.
"	640			
Messida (Algeria)	1,337	t.		
Rosin —				
New York,	1,000	bbls.		
Boston,	2,569			
Bayonne,	1,980			
Saltpetre —				
Hamburg,	112	bbls.		
Soap —				
Boston,	5	cs.		J. Thompson
New York,	2	418	bbls.	
Boston,	2			Evans, Sons & Co.
Antwerp,	10	pkts.		J. T. Fletcher & Co.
Leghorn,	500	bxs.		Weaver & Sterry
Soapstone —				
Genoa,	300	bgs.		G. Huntriss
Sodium Nitrate —				
Iquique,	15	431	bgs.	
				Gunston, Sons & Co.
Sodium Sulphate —				
Boston,	20	bbls.		
Starch —				
Rotterdam,	60	cs.		
Antwerp,	74			J. T. Fletcher & Co.
New York,	40			J. Holden
"	5	bbls.		
"	350	bgs.		
Stearine —				
Antwerp,	38	bgs.		
Sulphur —				
Catania,	100	t.	10	cks. 77 bbls.
"	797	bgs.		
Messina,	7			
Sulphur Ore —				
Huelva,	1,515	t.		Matheson & Co.
Superphosphate —				
Antwerp,	42	cks.		
Tartar —				
Naples,	2	cks.		
Bordeaux,	23			
Tartaric Acid —				
Rotterdam,	4	cks.		
Varnish —				
Genoa,	50	bbls.		Langstaff & Co.
New York,	1	bbl.		R. W. Blackwell
Rotterdam,	2	cks.		

Waste Salt—

Hamburg,	202	bgs.		
"	300	cks.		H. Tyer & Co.
Wood Pulp —				
Boston,	112	rolls		E. F. Callister & Son
"	424	bbls.		
Gothenburg,	170	bbls.		
Skien,	4,964			Becker & Co.
Zinc Ashes —				
Rotterdam,	30	cks.		
Zinc Oxide —				
Rotterdam,	50	cs.		
Antwerp,	30	bbls.		
Zinc Skimmings —				
New York,	7	cks.		
Zinc White —				
Rotterdam,	45	cks.		
Hamburg,	80			

MANCHESTER.

Week ending October 5th.

Albumen —				
Hamburg,	5	cks.		
Acetate of Lime —				
New York,	2,216	cs.		
Barytes —				
Rotterdam,	23	cks.		
Castor Oil —				
Antwerp,	20	bbls.		
Chemicals (otherwise undes.) —				
Rotterdam,	27	cks.		
Rouen,	28			
Colours —				
Rotterdam,	66	cs. 46	cks. 89	bbls. 13 bxs.
Hamburg,	3	10		
Ghent,	10	22	18	
Antwerp,	10	22	18	
Cottonseed Oil —				
Rotterdam,	150	bbls.		
Cream of Tartar —				
Rotterdam,	3	cks.		
Dyestuffs —				
Alizarine				
Rotterdam,	58	cks. 3	cs.	
Extracts				
Rotterdam,	10	cks.		
Bordeaux,	100			J. & P. Hutchison
Treport,	36			
Logwood				
San Fernando,	370	t.		
Belize,	368			
Farina —				
Hamburg,	127	bgs.		
Stettin,	1,500			Browne, Geveke, & Co.
"	790	bbls.		
Gelatine —				
Rouen,	10	cs.		
Glucose —				
Stettin,	1,000	bgs.		C. T. Faulkner & Co.
New York,	200	bbls.		T. M. Duche & Sons
Glue —				
Rotterdam,	82	bgs.		
Rouen,	43	cs. 27	cks. 9	bbls.
Hamburg,	48	bgs.		
Stettin,	40			W. Harrison & Co.
"	30			
Litharge —				
Rotterdam,	15	cks.		
Magnesium Sulphate —				
Hamburg,	500	bgs.		
Naphtha —				
Hamburg,	4	dms.		
Potash —				
Rotterdam,	20	dms.		
Treport,	42			
Pyrites —				
Huelva,	1,752	t.		
"	1,190			Leigh & Sillavan
Salammoniac —				
Rotterdam,	13	cks.		
Saltpetre —				
Hamburg,	2	bbls.		
Sodium Acetate —				
Rouen,	10	cks.		
Starch —				
Hamburg,	130	cs.		
Ghent,	24			J. T. Fletcher & Co.
Antwerp,	240			
New York,	600	bgs.		T. M. Duche & Sons

Tannic Acid—

Hamburg,	6	cks.		
Tar —				
Hamburg,	20	cks.		
Tartar Emetic —				
Hamburg,	18	cks.		
Tartaric Acid —				
Rotterdam,	28	cks. 20	kgs.	
Ultramarine —				
Hamburg,	2	cks. 1	cs.	
Waste Salt —				
Hamburg,	20	bgs.		qty.
Wood Pulp —				
Sannesund,	4,241	bbls.		
Stockholm,	717			90 bgs.
Norrkoping,	300			H. Craig & Co.
"	80			
Gefle,	810			Manchester Ship Canal Co.
"	7,005			H. Craig & Co.
Zinc Oxide —				
Antwerp,	20	bbls.		

HULL.

Week ending October 5th.

Acetic Acid —				
Rotterdam,	10	balloons		W. & C. L. Ringrose
Albumen —				
St. Petersburg,	80	cs.		Wilson, Sons, & Co., Ltd.
Alum Earth —				
Hamburg,	1	ck.		
Asbestos —				
Riga,	200	bgs.		Wilson, Sons, & Co., Ltd.
Barytes —				
Rotterdam,	103	cks.		W. & C. L. Ringrose
Bremen,	51			
Antwerp,	159			Bailey & Leatham
Bone Meal —				
Hamburg,	250	bgs.		
Chemicals (otherwise undescribed)				
Rotterdam,	1	bkt. 1	bx.	W. & C. L. Ringrose
Bremen,	10	pkts.		Veltmann & Co.
Dunkirk,	16	11	cks.	Wilson, Sons, & Co., Ltd.
Antwerp,	64			"
Cod Oil —				
Aalesund,	190	bbls.		Wilson, Sons, & Co., Ltd.
Bergen,	71			"
Colours —				
Rotterdam,	5	cs. 1	ck. 57	pkts. 9 bbls.
				W. & C. L. Ringrose
Amsterdam,	1			"
Rotterdam,	1			Hutchinson & Son
Ghent,	16			Wilson, Sons, & Co., Ltd.
Riga,	51			"
Amsterdam,	1			J. Good & Sons
Antwerp,	13			16 pkts. Wilson, Sons, & Co., Ltd.
Colours and Alizarine —				
Rotterdam,	178	pkts.		W. & C. L. Ringrose
Cream of Tartar —				
Rotterdam,	2	cks.		W. & C. L. Ringrose
Cryolite —				
Copenhagen,	4	cks.		Wilson, Sons, & Co., Ltd.
Dyestuffs —				
Alizarine				
Rotterdam,	58	cks. 65	pkts.	W. & C. L. Ringrose
Logwood				
Hamburg,	10	bgs.		Wilson, Sons, & Co., Ltd.
Myrabolams				
Bombay,	7,040	bgs.		
Farina —				
Harlingen,	90	bgs.		W. & C. L. Ringrose
Stettin,	650			Wilson, Sons, & Co., Ltd.
Ghent,	198	cs.		"
Hamburg,	100	bgs.		"
Glucose —				
New York,	50	bbls.		
Stettin,	100	bgs.		Wilson, Sons, & Co., Ltd.
Rotterdam,	50			Hutchinson & Son
Glue —				
Bremen,	100	bbls.		Veltmann & Co.

Rotterdam,	6 cks.	Hutchinson & Son
Dunkirk,	62	Wilson, Sons, & Co., Ltd.
Hamburg,	20 bgs.	
Lamp Black—		
Ghent,	75 brls.	Wilson, Sons, & Co., Ltd.
Linseed Oil—		
Antwerp,	5 cks.	Bailey & Leatham
Minium—		
Antwerp,	2 cks.	Bailey & Leatham
Ochre—		
Rouen,	7 cks.	
Paint—		
Boston,	20 cs.	Wilson, Sons, & Co., Ltd.
Pitch—		
Amsterdam,	13 cks.	W. & C. L. Ringrose
Rosin—		
Boston,	79 brls.	
Saltpetre—		
Hamburg,	4 cks.	Lofthouse & Saltmer
Starch—		
Bremen,	246 cs.	Veltmann & Co.
New York,	250 bgs.	
Antwerp,	85	Bailey & Leatham
Rotterdam,	100	Hutchinson & Son
Amsterdam,	40	J. Good & Sons
Antwerp,	200	Wilson, Sons, & Co., Ltd.
Stearine—		
Antwerp,	100 bgs.	Wilson, Sons, & Co., Ltd.
Sulphuric Acid—		
Antwerp,	1 cs.	Bailey & Leatham
Tar—		
Drontheim,	5 brls.	J. M. Hamilton & Co.
Tartaric Acid—		
Rotterdam,	10 cks.	W. & C. L. Ringrose
Treacle—		
New York,	250 brls. 1,150 pks.	Wilson, Sons, & Co., Ltd.
Boston,	305 brls.	"
Ultramarine—		
Bremen,	8 cks.	W. & C. L. Ringrose
Rotterdam,	3	
Yarnish—		
Boston,	11 pks. 23 brls.	Wilson, Sons, & Co., Ltd.
White Lead—		
Antwerp,	11 cks.	Bailey & Leatham
Rotterdam,	29	Hutchinson & Son
"	39	W. & C. L. Ringrose
Wood Pulp—		
Helsingfors,	48 bls.	J. Good & Sons
"	8	Furley & Co.
"	111	
Zinc White—		
Rotterdam,	10 cks.	W. & C. L. Ringrose

GLASGOW.		
Week ending October 10th.		
Acetone—		
Rotterdam,	2 cks.	J. Rankine & Son
Albumen—		
Hamburg,	3 cs.	
Alum—		
Hamburg,	65 cks.	
Arachide Oil—		
Rotterdam,	3 cks.	J. Rankine & Son
Asbestos—		
Quebec,	700 bgs.	
Montreal,	337	
Barium Chloride—		
Rotterdam,	8 cks.	J. Rankine & Son
Barytes—		
Rotterdam,	27 cks.	J. Rankine & Son
"	12 pgs.	
Castor Oil—		
Antwerp,	36 cks.	
Colours—		
Hamburg,	6 cs.	
Rotterdam,	20 cks. 12	J. Rankine & Son
"	17 pgs.	
Cream of Tartar—		
Tarragona,	5 pps.	
Dyestuffs—		
Alizarine		
Rotterdam,	28 brls. 3 bxs.	J. Rankine & Son
"	137 pgs.	
Argols		
Bordeaux,	104 cks.	
Logwood		
Jamaica,	328 t.	Mucklow & Co
Madder		
Rotterdam,	3 cks.	J. Rankine & Son
Valonia		
Niceros,	150 t.	Martin & Millar
Farina—		
Delfzyl,	1,027 bgs.	
Glue—		
Rotterdam,	60 bgs.	J. Rankine & Son
"	20 bgs. 16 cks.	
Hamburg,		
Lead Acetate—		
Hamburg,	13 cks.	
Paint—		
Christiania,	2 cs.	
Painters' Colours—		
Antwerp,	5 cs.	
Pitch—		
Hamburg,	8 cs.	
Potashes—		
Hamburg,	102 cks.	
Montreal,	28 brls.	
Pyrites—		
Huelva,	1,853 t.	Tharsis Co.
Rosin—		
New York,	750 brls.	
Saltpetre—		
Hamburg,	13 cks.	

Soap—		
Rotterdam,	1 cs.	J. Rankine & Son
New York,	1	
Starch—		
Antwerp,	135 cs.	
New York,	800 bxs.	
Rotterdam,	40	J. Rankine & Son
Stearine—		
Amsterdam,	155 bgs.	
Tartar—		
Bordeaux,	25 cks.	
Treacle and Molasses—		
Montreal,	1 brl 4 pkgs.	
Yarnish—		
New York,	1 cs.	
Waste Salt—		
Hamburg,	250 t. 600 bgs.	
White Lead—		
Rotterdam,	20 cks.	
Wood Pulp—		
Sundswall,	7,800 bls.	
Boston,	112 rolls	Aising & Co.
Christiania,	200	
"	1 414	
Zinc Oxide—		
Rotterdam,	11 cks.	J. Rankine & Son

TYNE.

Week ending October 5th.

Alum Earth—		
Hamburg,	21 cks.	Tyne S. S. Co
Barytes—		
Antwerp,	197 bgs.	Tyne S. S. Co.
Colours—		
Rotterdam,	5 cks.	Tyne S. S. Co.
Hamburg,	5 cs.	"
Antwerp,	6 brls.	"
Glue—		
Antwerp,	2 cks.	Tyne S. S. Co
Kieselguhr—		
Bergen,	506 bgs.	
Limestone—		
Antwerp,	7 cs. 4 crts.	Tyne S. S. Co.
Phosphate—		
Antwerp,	215 t.	Langdale's Chem Manure Co.
Quicksilver—		
Copenhagen,	100 cyldrs.	
Salt—		
Hamburg,	600 t.	
Soap—		
Rotterdam,	3 cs.	Tyne S. S. Co.
Starch—		
Rotterdam,	112 cs.	Tyne S. S. Co.
Antwerp,	60	"
Ultramarine—		
Hamburg,	4 cks.	Tyne S. S. Co.
Wood Pulp—		
Christiania,	250 bls.	
Laurvig,	30	
Zinc Oxide—		
Antwerp,	5 brls.	Tyne S. S. Co.

GOOLE.

Week ending October 2nd.

Alum—		
Rotterdam,	60 bgs.	23 cks.
Caoutchouc—		
Hamburg,	1 cs.	
Colours—		
Rotterdam,	2 cks.	
Hamburg,	8	
Dyestuffs (otherwise undesignated)—		
Rotterdam,	43 cks 7 cs.	
Boulogne,	26	19
Ghent,	15	3
Farina—		
Hamburg,	150 bgs.	
Delfzyl,	515	
Glucose—		
Calais,	100 bgs.	
Hamburg,	135	
Lead Acetate—		
Hamburg,	28 cks.	
Logwood—		
Belize,	333 t.	
Phosphate—		
Ghent,	816 bgs.	
Potash—		
Rotterdam,	33 cks.	
Antwerp,	28 dms.	
Calais,	48	
Saltpetre—		
Hamburg,	1 ck.	
Sodium Nitrate—		
Rotterdam,	39 cks.	
Sodium Silicate—		
Rotterdam,	5 cks.	
Starch—		
Rotterdam,	30 cs.	
Waste Salt—		
Hamburg,	404 cks. 100 bgs. 179	

GRIMSBY.

Week ending October 5th.

Ammonium Sulphate—		
Antwerp,	2 cks.	
Aniline Dyes—		
Antwerp,	12 cks. 38 pkgs. 114	
Hamburg,	3	
Rotterdam,	2	
Barytes Sulphate—		
Antwerp,	135 bgs.	
Caoutchouc—		
Rotterdam,	1 cs.	
Hamburg,	3	
Chemicals (otherwise undesignated)—		
Hamburg,	4 cks. 11 pkgs. 15	
Rotterdam,	10	
Colours—		
Rotterdam,	5 cks.	
Hamburg,	6	37 pkgs. 115
Antwerp,	56	8
Farina—		
Hamburg,	150 bgs.	
Starch—		
Antwerp,	40 cs.	
Zinc Oxide—		
Antwerp,	25 cks.	

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.		
Week ending October 9th.		
Alkali—		
Delagoa Bay,	1 t. 2 c.	£30
Algoa Bay,	7 15	91
Ammonia (Liquid)—		
M. Video,	50 cs.	£26
Ammonium Carbonate—		
Melbourne,	7 c.	£13
Kobe,	2 t.	64
Yokohama,	8 10	271
St. Petersburg,	17 10	570
Ammonium Chloride—		
Bourgas,	18 c.	£26
Genoa,	3 t. 3	70
Varna,	1 7	47
Arsenic—		
Yokohama,	1 t.	£16
Napier,	40 drs.	33

Barium Nitrate—		
New York,	2 t. 9 c.	£36
Bisulphite of Lime—		
Calcutta,	70 cs.	£78
Carbonic Acid Gas—		
Bermuda,	21 cs.	
Caustic Soda—		
Delagoa Bay,	9 c.	£12
Sydney,	10 t. 8	70
E. London,	11	12
Natal,	5 5	180
Lyttelton,	5 3	37
Algoa Bay,	3 5	66
Halifax,	13	11
B. Ayres,	12	6
Rockhampton,	4	8
Chemicals (otherwise undesignated)—		
Copenhagen,	1 t. 2 c.	£48
Harlingen,	8	24
Sydney,	5	13

Christiania,	1 2	57
Bombay,	2 cks. 1 cs.	21
Citric Acid—		
St. Petersburg,	3 t. 5 c.	£412
Cologne,	5	44
Philadelphia,	1	133
Yokohama,	10	61
Bombay,	5 cs.	22
Calcutta,	2	15
Hamburg,	2 cks 10	2 kgs. 233
Kiew,	10	63
Rotterdam,	5	32
Coal Products—		
Alizarine		
Boston,	80 cks.	£1,066
Bombay,	450 kgs.	1,430
Lisbon,	1	18
Barcelona,	7	171
Aniline Dyes		
Melbourne,	1 cs.	£22

Aniline Oil		
Genoa,	11 drs.	
Anthracene		
Rotterdam,	99 cks.	
Benzol		
Rotterdam,	72 cks. 26 drs.	
Carbolic Acid		
Colombo,	12 cs.	
Coal Tar Dyes		
Lyttelton,	1 ck.	
Cresote Salts		
Harlingen,	1,663 bgs.	
Naphthaline		
Hamburg,	3 cks.	
Pitch		
Cette,	1,737 t.	
Antwerp,	200	
Rangoon,	11 brls.	
Helsingfors,	250	
Hong Kong,	750 cks.	

20	11 pks.
88	2
20	9
9	10
5	37
40	124
11	10
burg,	7
	4
	1
ed Oil—	
100 c.	
414	
34	
51	
198	
67	
161	
748	
20	
104	
502	
35	
218	
13	
(otherwise undescribed)	
6 cks.	
15 dms.	
2	
90 bgs.	
10	
Oil—	
52 c.	
30	
19	
41	
640	
16	
87	
69	
7	
340	
17	
120	
56	
30 t.	
6,102 bgs.	
White—	
400 bgs.	
15 cks.	
4 dms.	
Colours—	
30 cks. 1 cs.	
4	
2	
19	162
32	964 kgs.
1	58 pkgs.
10	
10	
burg,	
rg, 1 dm. 12	80 pks.
ren,	1 pke.
for,	
les,	
1	
ork,	20
lam,	1
2	2
17	2 pks.
2	
70	
ersburg,	100
8,	1
209 t.	
75 bgs.	
ago—	
for,	2 cks.
5 t.	
108 t.	
13 cs.	
50	
burg,	1
ash—	
24 cks	
ersburg,	1 cs.
3 cks	
33	
41	

Tar—	
Abo,	10 cks.
Amsterdam,	11
Genoa,	10
Helsingfors,	100
Rio de Janeiro,	50
Rotterdam,	1
Stettin,	6
Treacle—	
Stockholm,	30 cks.
Varnish—	
Antwerp,	2 cks. 1 cs.
Copenhagen,	1
Genoa,	5
Gothenburg,	5
Hamburg,	1
Marseilles,	3
Naples,	2
Rotterdam,	1
Whiting—	
Bombay,	13 cks.

GLASGOW.

Week ending October 10th.

Acid—	
Calcutta,	£21
Alum—	
Canada,	£50
Ammonium Sulphate—	
Bordeaux,	25 t. ¾ c.
Demerara,	206 10
Nantes,	68 12
Hamburg,	101 7
Asbestos—	
Trinidad,	7½ c.
Bleaching Powder—	
Melbourne,	12 t. 2¾ c.
Boracic Acid—	
Melbourne,	5 c.
Borax—	
Melbourne,	12½ c.
Canada,	£93
Castor Oil—	
Adelaide,	40½ glns.
Algoa Bay,	3 t. 5 c.
Santos,	£20
Caustic Soda—	
Calcutta,	20 t. 13 c.
Seville,	10 3½
Trinidad,	12½
Chemicals (otherwise undescribed)	
Sydney,	£25
Trinidad,	8
Chloroform—	
Melbourne,	£20
Coal Products—	
Pitch	£130
Brest,	
Cette,	463 t.
Christiania,	25
La Rochelle,	800
Brindisi,	527
U.S.A.,	226
Tar	
Calcutta,	£20
Penang,	55
Christiania,	80 brls.
Danzig,	55 t. 13 c.
Tar Oil	
Danzig,	5 t. 12 c.
Copperas—	
Calcutta,	£73
Dyestuffs—	
Alizarine	£56
Brisbane,	19
Melbourne,	
Extracts	
Canada,	£379
Sydney,	1 t. 13¾ c.
Victoria,	89
Christiania,	11
Christiansand,	18
Logwood	
Brisbane,	£32
Madder	
Brisbane,	£31
Dyestuffs (otherwise undescribed)	
Brisbane,	£39
Glucose—	
U.S.A.,	1 t.
Iodine—	
Rotterdam,	£830
Linseed Oil—	
Sydney,	350 glns.
Bombay,	3 t. 18¾ c.
M. Video,	3 2¾
Litharge—	
E. London,	£21

Paint—	
Brisbane,	1 t. 5 c.
Calcutta,	£450
Singapore,	58
Sydney,	2
Yokohama,	40
Bombay,	61
Hong Kong,	36
Shanghai,	138
Painters' Colours—	
Calcutta,	£95
Colombo,	36
Melbourne,	7¾ c.
Hong Kong,	82
Trinidad,	123
Paraffin Wax—	
Madras,	£25 17s.
Fiume,	£228
Trieste,	84
Venice,	298
Bordeaux,	124
Phosphates—	
Trinidad,	£103
Potassium Bichromate—	
Brisbane,	£20
Victoria,	£20. 17s.
Amsterdam,	£402
Rosin Oil—	
Rotterdam,	£40
Salt—	
Trinidad,	15 t. 4½ c.
"	£93
Soap—	
Algoa Bay,	12¾ c.
Newfoundland,	11
Sydney,	£28. 10s.
Soda Crystals—	
Trinidad,	4 t. 16 c.
Sulphur—	
Trinidad,	£118
Superphosphates—	
Reunion,	20 t. 1¾ c.
Madras,	5
Tallow—	
Trinidad,	2 t. ¾ c.
Treacle—	
Bergen,	7 t. 14 c.
Christiania,	36 5
Christiansund,	2 7
Stockholm,	59
Varnish—	
Bombay,	£80
Hong Kong,	32
White Lead—	
Calcutta,	£67
E. London,	53
Sydney,	77
Johannesburg,	168
Hong Kong,	28

TYNE.

Week ending October 5th.

Alkali—	
St. Petersburg,	24 t. 5 c.
Gothenburg,	5 5
Rotterdam,	3 8
Bergen,	2 17
Ammonia Salts—	
St. Petersburg,	5 t. 3 c.
Ammonium Chloride—	
Barcelona,	10 c.
Gothenburg,	1 t. 1
Antimony—	
New York,	52 t. 10 c.
Rouen,	2
Rotterdam,	2 10
Arsenic—	
Gothenburg,	2 t. 7 c.
Barium—	
New York,	5 t. 1 c.
Antwerp,	5 2
Barium Chloride—	
Montreal,	1 t.
Barytes—	
Rotterdam,	1 t. 5 c.
Hamburg,	60 2
Bleaching Powder—	
Aarhus,	10 t. 2 c.
St. Petersburg,	24 5
Odense,	10
Hamburg,	24 8
Gothenburg,	10 2
Copenhagen,	10 1
Rotterdam,	27 6
Trondhjem,	10 2
Christiania,	21

Caustic Soda—

Amsterdam,	3 t. 4 c.
New York,	29 11
Genoa,	18 17
Barcelona,	60 8
Aarhus,	1 4
St. Petersburg,	191 13
Hamburg,	4 17
Gothenburg,	4 19
Valencia,	16 13
Copenhagen,	4 18
Trondhjem,	17
Rotterdam,	3
Antwerp,	7 10
Christiania,	4 7

Fluorspar—

New York,	53 t.
-----------	-------

Litharge—

Montreal,	11 t. 7 c.
-----------	------------

Magnesia—

Genoa,	6 t. 16 c.
Barcelona,	4
Hamburg,	7
Copenhagen,	436 lbs.

Paint—

Rio de Janeiro,	14 t. 16 c.
-----------------	-------------

Potash—

Genoa,	1
--------	---

Soap—

Rio de Janeiro,	1 t. 2 c.
-----------------	-----------

Soda—

New York,	74 t. 8 c.
-----------	------------

Smyrna,	29 4
---------	------

Middlefart,	53 18
-------------	-------

Jersey,	50
---------	----

Terneuzen,	4 19
------------	------

Valencia,	3 3
-----------	-----

Odessa,	20
---------	----

Rotterdam,	20 6
------------	------

Christiania,	20 9
--------------	------

Soda Ash—

Gothenburg,	41 t. 9 c.
-------------	------------

Christiania,	13 4
--------------	------

Sodium Sulphate—

Terneuzen,	300 t.
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Christiania,	10
--------------	----

Sulphur—

Gothenburg,	195 t.
-------------	--------

Christiania,	50
--------------	----

Varnish—

Rio de Janeiro,	5 c.
-----------------	------

Vermilion—

Rio de Janeiro,	4 c.
-----------------	------

White Lead—

Rio de Janeiro,	3 t. 15 c.
-----------------	------------

Montreal,	7 8
-----------	-----

Copenhagen,	1 5
-------------	-----

Stavanger,	2 7
------------	-----

GOOLE.

Week ending October 2nd.

Benzol—	
Hamburg,	25 cks. 1 cs.
Chemicals (otherwise undescribed)	
Boulogne,	5 cks.
Rotterdam,	3 cs.
Coal Products (otherwise undes.)—	
Boulogne,	2 cks. 6 cs.
Ghent,	6
Hamburg,	70
Rotterdam,	13
Manure—	
Boulogne,	65 bgs.
Painters' Colours—	
Boulogne,	1 cs.
Rotterdam,	2 cks.
Pitch—	
Dunkirk,	250 t.
Antwerp,	259
Soap—	
Ghent,	6 cks.

GRIMSBY.

Week ending October 5th.

Alkali—	
Hamburg,	20 cs. 20 dms.
Chemicals (otherwise undescribed)	
Antwerp,	1 ck.
Hamburg,	6 3 cs.
Dieppe,	1
Coal Products (otherwise undes.)—	
Dieppe,	199 cks.
Dyestuffs (otherwise undescribed)	
Dieppe,	1 ck. 2 cs.
Painters' Colours—	
Antwerp,	1 cs.
Hamburg,	5 cks.

PRICES CURRENT.

WEDNESDAY, OCT. 16T

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities is

Acids:—		£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	9/	
Glacial			40/-	
Arsenic S.G., 2000°		0	15	0
Fluoric	per lb.	0	0	3 3/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
(Cylinder), 30° Tw.		0	3	0
Nitric 80° Tw.	per lb.	0	0	1 3/8
Nitrous		0	0	1 3/4
Oxalic	nett	0	0	3 3/4
Phosphoric, 1750°		0	1	1
Picric		0	0	10
Sulphuric (fuming 50 %)	per ton	15	10	0
(monohydrate)		5	10	0
(Pyrites, 168°)		3	0	0
(free from arsenic, 145°)		1	5	0
Sulphurous (solution) S.G. 1025		1	7	6
Tannic (pure)	per lb.	0	1	0
Tartaric		0	0	11 1/4
Arsenic, white powdered	per ton	15	0	0
Alum (loose lump)		4	12	6
Alumina Sulphate (pure)		4	12	6
Aluminoferrous		2	7	6
Aluminium	per lb.	0	2	10
Ammonia, Anhydrous		0	1	3
" 880=28° B.	per lb.	0	0	3
" =24° B.		0	0	2 1/4
Carbonate	nett	0	0	3 3/4
Muriate	per ton	23	0	0
(sal-ammoniac) 1st & 2nd	per cwt.	39/-	37/-	
Nitrate	per ton	38	10	0
Phosphate	per lb.	0	0	6 1/4
Sulphate (grey) London	per ton	9	0	0
(grey) Hull		9	0	0
Aniline Oil (pure)	per lb.	0	0	5 1/4
Aniline Salt		0	0	4 3/4
Antimony	per ton	31	10	0
(tartar emetic)	per lb.	0	0	7
(golden sulphide)		0	0	10
Barium Chloride	per ton	6	7	6
Carbonate (native)		3	5	0
Sulphate (native levigated)		42/6	to 6/3	
Bleaching Powder, 35 %	nett	7	0	0
Liquor, 7 %		3	10	0
Bisulphide of Carbon		13	5	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	2	6
China Clay (at Runcorn) in bulk		15/-	to 30/-	
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	8
Magenta		0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	11 1/2
Benzol, 90 % nominal	per gallon	0	1	1 1/2
50/90		0	1	1
Carbolic Acid (crystallised 40°)	per lb.	0	0	5 1/4
(crude 60°)	per gallon	0	1	6 1/4
Creosote (ordinary)		0	0	1 1/2
(filtered for Lucigen light)		0	0	2
Crude Naphtha 30 % @ 120° C.		0	0	5 1/4
Grease Oils, 22° Tw.	per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston		1	15	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	2
" Lucigen " and " Wells " Oils		0	0	2 1/2
Copper	per ton	46	2	6
Sulphate		16	10	0
Oxide (copper scales)		41	10	0
Glycerine (crude)		18	10	0
(distilled S.G. 1250°)		47	10	0
Iodine	nett, per oz.	0	0	9
Iron Sulphate (copperas)	per ton	1	5	0
Sulphide (antimony slag)		2	0	0
Lead (sheet) for cash		12	7	6
Litharge Flake (ex ship)		13	15	0
Acetate (white)		22	0	0
(brown)		15	0	0
Carbonate (white lead) pure		16	0	0
Nitrate		19	0	0
Lime, Acetate (brown)	per ton			
(grey)				
Magnesium (ribbon and wire)	per oz.			
Chloride (ex ship)	per ton			
Carbonate	per cwt.			
Hydrate	per ton			
Sulphate (Epsom Salts)	per ton			
Manganese, Sulphate	per ton			
Borate	per cwt.			
Ore, 70 %	per ton			
Methylated Spirit, 61° O.P.	per gallon			
Naphtha (Wood), Solvent				
Miscible, 60° O.P.				
Oils:—				
Cotton-seed	per ton			
Linseed				
Petroleum, American	per gallon			
Stearine	per ton			
Phosphorus (yellow)	per lb.			
(red)				
Potassium (metal)	per oz.			
Bichromate	nett			
Carbonate, 90 % (ex ship)	per ton			
Chlorate	per lb.			
Cyanide, 98 %				
Hydrate (Caustic Potash) 80/85 %	per ton			
(Caustic Potash) 75/80 %				
(Caustic Potash) 70/75 %				
Nitrate (refined)	per cwt.			
Permanganate	per cwt.			
Prussiate Yellow	per lb.			
Sulphate, 90 % (ex ship)	per ton			
Muriate, 80 % (do.)				
Silver (metal)	per oz.			
Nitrate				
Sodium (metal)	per lb.			
Carb. (refined Soda-ash) 48 %	nett per ton			
(Caustic Soda-ash) 48 %				
(Carb. Soda-ash) 48 %				
(Alkali) 58 %				
(Soda Crystals)				
Acetate (ex-ship)				
Arseniate, 45 %				
Chlorate	per lb.			
Borate (Borax)	net, per ton			
Bichromate	per lb.			
Hydrate (77 % Caustic Soda) (f.o.b.)	net pr. ton			
(74 % Caustic Soda)				
(70 % Caustic Soda)				
(60 % Caustic Soda)				
(60 % Caustic Soda, cream) (f.o.b.)				
Bicarbonate				
Hyposulphite				
Manganate, 30 %				
Nitrate (95 %) ex-ship Liverpool	per cwt.			
Nitrite, 98 %	per ton			
Phosphate				
Silicate (glass)	per ton			
(liquid, 100° Tw.)				
Stannate, 40 %	per cwt.			
Sulphate (Salt-cake)	per ton			
(Glauber's Salts)				
Sulphide				
Sulphite				
Strontium Hydrate, 100 %				
Sulphocyanide Ammonium, 95 %	per lb.			
Barium, 95 %				
Potassium				
Sulphur (Flowers)	per ton			
(Roll Brimstone)				
Brimstone: Best Quality				
Superphosphate of Lime (20 %)				
Tallow				
Tin Crystals	per lb.			
English Ingots	per ton			
Zinc (Spelter)				
Chloride (solution, 100° Tw.)				

THE CHEMICAL TRADE JOURNAL

AND
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40.

SATURDAY, OCTOBER 26, 1895.

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DEVELOPMENTS IN THE ALKALI TRADE.

A GREAT many rumours have been current lately relative
to the salt and alkali trades. Some of these were of so
startling a character that they were received with extreme
caution by those who were not directly "in the know."

Under these circumstances a brief statement of the facts will
doubtless be acceptable to the majority of our readers, who
are necessarily much interested in the alkali trade.

There are two important changes pending, which are to
take the form of new works at Runcorn and the development
of certain works now existing on the bank of the Tees. For
the moment we shall confine our attention to the new works
at Runcorn.

Some time ago we referred at length to the Castner
Electrolytic process for the manufacture of bleach and caustic
soda. This week a company with £300,000. capital
has been floated, the public being invited to sub-
scribe for 200,000 £1. shares. The company has acquired
the patents of Mr. Castner and also of Dr. C. Kellner,
being therefore entitled the Castner-Kellner Alkali Co.
The Kellner patents had been bought by Messrs. Solvay
and Co., of Brussels, but under the new company the patents
are to be worked conjointly, terms having been arranged
between Messrs. Solvay and the company for a period of
twelve years.

We have previously dealt fully with the nature and quality
of the products manufactured by the Castner process. We
shall, therefore, now confine ourselves to the construction and
future of the company apart from the question of the purity
and excellence of the manufactured products.

The directors are Mr. F. Burton, of William Burton and
Sons, chemical manufacturers, London; Mr. H. Y. Castner;
Mr. F. Hardcastle, who is the President of the United
Lancashire and Cheshire Bleachers' Association, as well as
a member of the firm of Thos. Hardcastle and Sons; Dr. C.
Kellner, of the Kellner-Partington Paper Pulp Co.; Mr.
William Mather, of Messrs. Mather and Platt, Limited;
and Sir H. Roscoe. Though not appearing on the board,
Messrs. Brunner, Mond, and Co. are, we understand,
indirectly interested in the process, as M. M. Solvay have
made arrangements with the company for working the
process on the Continent. Further than this, the exploita-
tion of the process in the United States has been arranged
at the Mathieson Alkali Works, where extensive plant has
been put down, and an agreement entered into, under
which £65,000. is to be paid for the Castner American
patents, while a syndicate is to work the Kellner patents at
Golling, near Salzburg.

To come back to the new works at Runcorn, it is not at all
probable that they will be ready, at the earliest, before next
July. When completed they will be capable of producing

6,300 tons of caustic and 13,600 tons of bleaching powder per annum. Messrs. Mather and Platt are to be entrusted with the necessary mechanical and electrolytical plant. Seeing that the total annual production of caustic soda is said to be about 160,000 tons and of bleach 150,000 tons (but of this more next week), it would appear probable that the price of the latter will suffer most through this new source of competition. It is too early to speak more definitely about the future of prices, but apart from all the probable effects of this determined effort to successfully establish the manufacture of electrolytic bleach and alkali, this departure is doubtless the most important that has been attempted in the alkali trade for some years. It is the combination of one of the most rational of the many electrolytical processes, with a promising financial scheme, backed by sound commercial relations. Nevertheless, although, apparently the first really successful electrolytical company will secure a splendid monopoly, yet we have reason to believe that the competitive fiend will soon play havoc even in this comparatively virgin field of enterprise, and that before long the Castner-Kellner process will be hard pushed by another promising electrolytical process in the race for first honours.

The other rumours of new developments first took concrete form in the paragraph in which last week we referred to the acquisition of Messrs. Bell Bros' works on the Tees by Messrs. Brunner, Mond, and Co., Ltd. In substance this information is correct, though some of the early details which were circulated in the lay press were scarcely so.

It is now fully expected that the Northwich firm will take over the Port Clarence Works from the commencement of January next, and carry on the manufacture of ammonia-soda, obtaining their brine from the wells of the Salt Union. This new enterprise will in no way affect the importance of the production at the Cheshire works, which we understand will, for the present at all events, be carried on precisely as before.

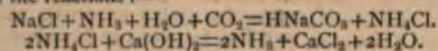
All these prospective changes cannot but effect in time something like a revolution of the alkali trade. It is not surprising, therefore, to learn simultaneously that the United Alkali Co., Ltd., have also decided to join in the epoch-marking movement, by erecting ammonia-soda works on the Tees, very near to the works that Messrs. Brunner, Mond, and Co. have just acquired.

ALKALI MANUFACTURE.

By W. F. S. CHENHALL.

(Concluded from page 243).

THE credit of the invention of the ammonia-soda process has been claimed by natives of Germany, France, Scotland, and England. But the history of the process dates from the time when Harrison, Grey, Dyer, and John Hemming first took out patents on the 30th June, 1838. A works was subsequently started by them in Whitechapel, where all the principal features of the process as now carried out were in operation. The difficulties which the exploiters of this process have had to contend against have, however, not for the most part been chemical ones, but mechanical, the chief being the construction of the plant so that the loss of ammonia is reduced to a comparatively small quantity. The practical success dates from 1863, when Solvay started a works in Belgium and began to take out patents, all previous works started by various people having failed commercially. The process is based upon the reactions:—



In a solution of ammonium chloride, at a low temperature, sodium bi-carbonate is precipitated. The reaction expressed by the first equation is not in practice complete. One third of the salt used remains undecomposed, even when the carbonic anhydride and ammonia is used in excess. This is due partly to the slight solubility of the sodium bi-carbonate, and partly to the fact that some of it is converted back to ammonia bi-carbonate. The waste product of the second reaction, calcium chloride, is unlike the calcium sulphate of the

Leblanc process in being inoffensive. The loss of ammonia manufacture has been reduced to one per cent. The ammonia superior to the Leblanc soda in being free from the large number of impurities contained in the latter (the former containing only 1 cent.). The ammonia soda has, however, only a density of 0.7–0.8 as against 1.2 of the Leblanc product. The disadvantage which the lightness would entail are prevented by re-roasting mechanical pressure when packing. The principal disadvantage been that the chlorine in the CaCl_2 has been lost; but, evidently being overcome by the ammonia soda manufacturers.

The brine used is first purified from magnesium salts by reaction with milk of lime; the lime being then precipitated as ammonium carbonate. By the addition of solid salt to the saturation is obtained; and ammonia, produced by treating ammonium chloride with calcium hydrate, is then passed in.

The ammoniacal brine is then treated with carbon dioxide principle upon which the plant for the purpose is constructed is vent the loss of ammonia, rather than to save salt. The temp has to be kept at about 15°C, as otherwise the reaction is reverse; and the heat produced by the reaction is nullified by with water. A tower consisting of about 25 superposed cylinders having each a height of 3 feet 3 inches, and containing per shelves, is used for the carbonating process. The cylinders are with the brine, and the carbonic anhydride is forced in at the of the tower in a series of jerks by means of a blowing engine, the rent being divided into jets by the perforations in the shelves. The liquor is expanded, the mechanical work done absorbing the keeping down the temperature. Another current of the anhydride introduced higher up the tower, but it is of a weaker nature. Escaping at the top is washed with a solution of salt and after with sulphuric acid to retain the anhydride and the ammonia. From the limekiln, carbon dioxide is obtained for use by the calc of the bicarbonate, when that is converted into the normal carbonate and the product from the latter source is purer than that from former. However the dioxide is obtained it is washed before order to remove flue-dust and sulphur acids from the coke. The is passed into the carbonating tower at about its middle, and the tower is kept filled to about 10 feet from the top, there is a layer of liquid between the middle and top of the tower which but little and very gradually mixes with the liquor below. The arrangement conserves the ammonia. The bi-carbonate is precipitated at the bottom of the tower, where the liquor is saturated with CO_2 . The jerking manner in which the dioxide is introduced prevents the perforations being choked with precipitate as much as they would otherwise be. When the becomes inconveniently stocked with bi-carbonate, the liquor is drawn and steam introduced to dissolve and remove the solid. The cooling of the solution crystals separate out. The tower is cooled by the application of water on its outside. The mother liquor which consists mainly of sodium chloride, ammonium chloride, ammonia, is run into stills and treated with quicklime for the recovery of ammonia. The heat utilised for the purpose is that generated by the quicklime is stoked. The exhaust steam from the blowing is also used.

The cost of plant (buildings and land excluded) to produce 100 tons of soda ash per day is said to be £1,600.

Caustic soda is produced by treatment with lime in the usual methods are also employed.

Several processes have been proposed for the recovery of the chlorine from the calcium chloride. Very few of them, however, have been of any use. The one most generally employed seems to be that proposed by the employment of magnesia, magnesium oxy-chloride is used the chlorine being afterwards liberated by decomposing the oxy-chloride with heat and air. Other metallic oxides are also employed for recovering the calcium chloride.

Methods for the electrolysis of alkaline chlorides have been proposed by many inventors during the last few years, and of the variety mentioned the Greenwood, Le Seur, Castner, Vautin, and Richardson processes, the working of some of which has commenced while the others are being prepared.

Among other requirements essential to the commercial success of electrolytic processes are low cost of production of electrolytic energy, highly efficient apparatus for transforming the electrical energy into potential chemical energy, small first cost of apparatus and low cost of maintenance, durability of apparatus, and small amount of labour necessary for the manipulation of the plant. The chief difficulties in connection with electrolytic cell have been the invention of a diaphragm of sufficiently low resistance as to necessitate only a relatively low electro-motive force to effect the electrolysis, but which nevertheless effectually prevent the recombination of the products the construction of a durable anode.

The process which at present seems to have best met these requirements is the Castner, which has been in operation at Oldbury for a year. The chief point of difference between this process and

that for the diaphragm is substituted a moving body of sodium amalgam being formed first and sodium hydroxide. By means of this arrangement the recombination of the to form hypochlorite is obviated, the destruction of the is thus prevented, and a very high electrical efficiency. Three compartments compose the cell, which can be from side to side to so cause the movement of the mercury. Two compartments are outside, and contain the carbon anodes and line chloride solution, the inner compartment containing the solution and iron cathode. The electrolysis takes place in the compartments, wherein the chloride solution is continuously. Afterwards it is returned to the saturators, and re-charged. is formed with sodium amalgam, the former escaping through to a collecting main. The amalgam, on reaching the centre ment through the rocking motion, acts as an anode during the of the current, and the sodium becomes hydroxide. The never contains more than 0.02 per cent. of sodium. Every e centre compartment is caused to overflow by passing in a quantity of water, and through a discharge pipe the caustic verflows passes into a collecting pipe connected with all the The cells are electrically joined in series, and can be put into n or stopped at will. The electrical efficiency is 90 per cent., loss being due to the reformation of sodium chloride. The tear of the anodes is reduced to an unimportant quantity by of the non-formation of hypochlorites. It is stated that the an be treated by a special process which enables the ordinary carbon to be substituted for retort carbon. A low electro-force of 4 volts for a current of 550 ampères is required only, the electrodes almost touching and to the non-accumulation of lgam. The cells are six feet long by three wide, with a of six inches, and in 24 hours with an expenditure indicated horse-power, there are produced 38½ pounds tic soda and 34½ pounds of chlorine. The caustic produced contains 20 per cent. of hydroxide, and upon ion a product of 99.5 per cent. purity is obtained. The has 3 per cent. of impurity consisting of hydrogen. The the cells is automatic, and their construction is said to be so at while in full operation and within a space of two hours two stop, empty, take apart completely, put the cells together and restart the process. The present plant consists of 30 cells, lues daily 1,200 lbs. of pure caustic, and 1,000 lbs of chlorine, cated horse power being expended.

Le Seur process was started a few years ago at Rumford Falls, The electrolyser is an iron tank, upon the sloping floor of ring of iron constituting the cathode rests. It is filled with wire gauze, and the top is drilled with small holes, to permit ogen to escape easily, to facilitate which the floor is sloped. hrugm consists of a piece of ordinary parchment cemented by ed blood albumen to a double sheet of asbestos, and it rests cathode. The diaphragm being placed in position an inner earthenware is placed on it and by its own weight makes a ht joint. There are usually 6 to 12 in each tank. The anode previously in the vessel, and consists of pieces of ordinary on embedded in a mass of lead, through which electrolytic s obtained. The object of the lutes is of course to prevent chlorine. The lute, which is made of porcelain, is in order one electrolyser can readily be electrically disconnected from the same tank, as otherwise it would be necessary to remove ntirely if anything happened to go wrong with it. Into the ssel is run a saturated solution. The anode section is also h the solution to about half an inch above that in the cathode

The object of this is to prevent the solution being trans-om the outer to the inner vessel, the reverse being the less To renew the diaphragms the whole of the inner vessels in are simultaneously raised, and this is done every 48 hours. e carbon anodes wear away, they are lowered by means of They are renewed every 6-8 weeks, when the cells are taken t, and the lead melted and recast. When the solution com- per cent. of caustic soda it is run off and precipitated as ate. Decomposition can be effected by a current working at s. Although 3 volts is sufficient the decomposition is then A practical efficiency of 80 per cent. is obtained Loss of caused through the evolution of hydrogen. Caustic obtained ration of the solutions contains more salt than desirable, but t is said to be large enough to allow for this. However, 99 of the caustic produced can be precipitated as carbonate. The manufacture is such that three tons of bleach are produced per

's process, which is being tried experimentally, uses fused salt sts upon a bath of molten lead, the latter being the cathode. carbon constitutes the anode and it is immersed in the salt. have been erected capable of turning out 40 tons of caustic ons of bleach per week by the Holland and Richardson pro- he soda solution formed around the iron cathode is run off,

and by concentration the caustic is separated from the salt, whilst the chlorine rises and is absorbed by lime or converted into chlorate.

The electrolyser of the Greenwood process consists of a rectangular tank of slate divided into compartments by diaphragms composed of a number of V shaped shelves of glass or slate set in a mahogany frame. The spaces between the shelves are filled in with asbestos. The cathode and anode are on opposite sides of the diaphragm. The anode is built of a number of pieces of hard retort carbon cemented together by first impregnating with tar and subsequently heating to a high temperature. The inside is filled with type metal. The cathodes and anodes are parallel in the electrolyzers, which are arranged in series. By means of pipes a half-saturated salt solution flows through all the sections. The treatment of the products is similar to that of the Le Seur process. No arrangement is made for the renewal of anodes and diaphragms, as they were believed to be indestructible.

A patent has recently been obtained by J. Greenwood, for recovering the chlorine from the ammonium chloride of the ammonia-soda process. It is proposed to treat the chloride with zinc or other metallic oxides, so as to convert the same into chloride and liberate ammonia. The chloride is then electrolysed, a zinc cathode being employed. The chlorine is liberated and the zinc deposited. To obtain zinc oxide calamine is roasted, the escaping carbonic acid gas being utilised in the ammonia-soda process.

TIPS FOR TRADERS.

THE PETROLEUM INDUSTRY in India (Assam) has a future before it, according to a recent report by the Assistant-commissioner, and it should command support from the public. Much depends, however, upon the hands into which the development falls. The report protests strongly against the recent erroneous assertions and deductions made by scientists in India and Burma.

MONEY in the form of Post Office Orders should not be sent to Portugal, as the foreign postal authorities reckon the exchange at the old rates still. This involves the loss of 3s. 6d. to 4s. in every £1. by the exchange. The most trivial things should not be sent by letter or book post unless marked "pour être soumis à la Douane" on the outside, otherwise special duties and fines are imposed. If these are not paid the refused articles are *never* returned to the sender.

TWELVE concessions for public works have been made in Mexico recently. They include grants for the construction of seven railways, one tramway, two canals, the utilization of two rivers or falls for motive power and generation of electricity, and also certain harbour improvements. We shall be pleased to give further particulars to inquirers.

THE Chilean denunciation of the treaty of navigation, commerce, and friendship between Great Britain and that country made in 1854 has been received by the Secretary of State for Foreign affairs. The treaty will actually lapse on the 3rd of September, 1896.

TARIFF CHANGES.

There are from time to time many alterations in the Customs regulations abroad, which it is well for those trading in chemicals, oils, paints, and raw materials to be acquainted with. The following are some of the most recent changes of interest to the foregoing:—

SULPHATES OF IRON AND SODA have been subject to certain changes in the tonnage dues at the French ports of Algiers, Havre, and Dieppe. The change is a favourable one, for while the due in most other cases has been raised from 15 centimes to 20, the two above named chemicals will have to pay 10 centimes only.

CEMENT AND COAL TAR also benefit by this reduction in tonnage dues.

CHEMICAL MANURES of all descriptions can now be imported into Guadalupe free from all duties.

PETROLEUM in the crude form is now subject to a higher duty when imported into the Philippine islands. The dues now stand at 4 pesos, or about 16s. per 100 kilos (220 lbs. avoir.) for crude, and about 18s. per 100 kilos for refined, including benzoline and gasoline.

MINERAL OILS, RESIN AND TAR imported into Italy are to have their duties assessed on the net legal weight, when subject to a duty over 20 lira per quintal.

CAUSTIC SODA is the one fortunate exception to article 11 in the above new decree concerning the tare of goods. Iron drums containing caustic are to be treated the same as the goods they contain.

Official Memoranda.

(From the Board of Trade Journal.)

CUSTOMS TARIFF OF THE BAHAMAS.

The following is a special abstract of the duties now leviable:—

			£	s.	d.
Candles, sperm	.. .. .	per 100 lbs.	0	11	0
" tallow	.. .. .	"	0	6	0
Oil, kerosene	.. .. .	per gall.	0	0	4
" linseed, and other unenumerated	.. .. .	"	0	0	9
" olive, sperm, and lard	.. .. .	"	0	1	0
" essential	.. .. .	"	25% ad val.		
Pitch and tar	.. .. .	per brl.	0	1	3
Soap, common washing	.. .. .	per 100 lbs.	0	6	0
Turpentine	.. .. .	per brl.	0	1	3
" Spirits	.. .. .	per gall.	0	0	3

The following goods are admitted duty free:—

Dyewoods and stuffs	Potash
Manures and fertilisers of all kinds	Palm oil
Oil, steam, and gas engines	Cocoon oil
Gasoline	Cottonseed oil
Naphtha	Petroleum (crude)
Salt	Vaseline (crude)
Tallow	Mineral soap stock
Rosin	Palm oil soap stock
Caustic soda	Cottonseed oil soap stock
	Talc

If dyewoods are again sold by auction or in any other way to parties other than the real importers, a duty is charged according to the value realised.

THE SOUTH AMERICAN RUBBER INDUSTRY.

The world's consumption of india-rubber has been growing so enormously during the past few years that the time does not seem to be far distant when the demand will exceed the supply. Already the difficulty of getting a sufficient quantity of rubber to meet current needs has led consumers to fear that there will be an early famine. One of the chief causes of this heavy increase in consumption is, of course, the employment of the material in the bicycle trade, and long before the limit has been reached in this direction another scope, that may be quite as wide and general, is being opened up in the use of pneumatic tyres upon vehicles of all descriptions. The United States is the largest consumer of india-rubber at the present moment, but that country is run pretty close by Great Britain. The other markets follow a long way behind, but the amount imported by France and Germany is a no mean proportion of the trade done in this material. It is certain that the threatened famine in india-rubber, or, more properly speaking, caoutchouc, would not be so imminent as it is now if the owners of the plantations in West Africa and elsewhere had been a little less reckless in their method of tapping the trees. In order to more easily get at the milky juice it has long been the custom in West Africa, and in some of the South American States, to cut down the trees bodily, so that the collectors only secured one lot of caoutchouc from each tree instead of a large number of periodical yields. The prevalent idea that this policy was justified by the almost unlimited range of forests producing caoutchouc was very soon found to be groundless, and, now that it is too late to have any immediate effect upon the supply, stringent regulations have been made in many countries to prevent the cutting down of trees, and owners are going to a great deal of expense in laying out new plantations, which must, however, take several years before they come to maturity. In the meantime, efforts are being made to compensate for these limited supplies by producing artificial india-rubber, and several new processes have lately been brought out in France and Germany, though without as yet producing india-rubber of a suitable quality upon a commercial scale.

The most obvious way of meeting the demand for this material is to give more attention to some of the other rubber-producing trees that are to be found in considerable quantities in South America and elsewhere. At the present moment French capitalists are trying to make profit out of the scarcity of india-rubber by utilising the balata, which for many years past has been employed upon a small scale for a variety of purposes. There are at least two descriptions of balata, the one white and the other red, the latter being known in the English colonies as the "bullet tree," a corruption, no doubt, of the native word "bolletrie." The species being exploited in French Guiana is the *Mimusops balata*, a magnificent tree which is peculiar to all the Guianas. It attains a height of from 90 to 100 feet. The wood is very much sought after for cabinet-making on account of its beautiful colour, while it has also the property of resisting the depredations of

insects. These merits are almost fatal to the existence of the rubber-producer, and in some of the South American States for being cut down without any regard to the profit that can be seen tapping them in an intelligent manner. In Venezuela the tree is to be found in great abundance, and, in point of fact, it grows very in the mountainous districts of the northern States of South America. Nevertheless, in British Guiana immense forests are found in the lying districts of swampy Canje. In a report on the balatas, published a little while ago by M. Hayes, a colonising agent, it was stated that there was a sufficient expanse of forest in the Guianas to allow exploitation of rubber being carried on for centuries. It was, however, necessary that something should be done to prevent the wholesale destruction of the *Mimusops balata*, which would very soon disappear if allowed to be cut down indiscriminately for its wood, and one of the richest and most prolific resources of South America would be destroyed. In fact both in Venezuela and in Dutch Guiana the trees are cut down with a view of collecting as much of the juice as possible, and in French Guiana the same process was for a long time employed. When the trees are thus felled circular cuts are made every 12 inches and receptacles are placed underneath to catch the juice. The also sometimes removed from the tree and the juice extracted by presses.

In British Guiana it is only allowed to tap the trees without the French colony. The English method of collecting the rubber is to make horizontal incisions half way round the tree and connect them with a vertical channel to allow of the fluid flowing down to the root, but a better method is said to consist in cutting out rectangular pieces of bark from which the juice is extracted by presses. A rectangular must of course be left on the trunk, and these are removed at the next tapping when the exposed parts of the tree are sufficiently healed. To secure perfect vitality in the tree it is pruned only to tap it over a third of its circumference every five years. The properly carried out the collection of balata rubber is a very profitable industry indeed. One traveller in French Guiana, who was accompanied by three men, collected 666 litres of juice in 10 days which produced on coagulation 360 kilos of rubber. The men been able to give their time exclusively to the collection of rubber there is no doubt that the amount would have doubled or trebled. It is, indeed, estimated that a single man will supply a kilo of rubber every year without suffering appreciable extent from the tapping. The system usually employed for securing coagulation is to pour the liquid into large shallow pans four inches deep. A hard crust very soon forms at the surface, this is removed to allow of another crust forming, and so on until the whole of the juice is solidified. The crusts are then hung on a line to dry. The balata rubber, though perhaps slightly inferior to caoutchouc for certain purposes, and notably as an insulating medium, is specially adapted for a great many uses, such as machinery, mackintoshes, surgical appliances, etc., and its merits are so far from being overrated that a considerable trade has grown up during the past three years in the Guianas. While the exports of balata rubber from British Guiana in 1881 were only 41,000 lbs., in 1889 they were 363,480 lbs., and though the total fell in 1892-93 to 237,430 lbs. the value has been rapidly increasing, and for the two years named £20,605. In Dutch Guiana the industry has not been carried out in such a systematic manner. Nevertheless, two American companies are exploiting the balata on a large scale, and are sending the product to the United States. That the industry can be made a very profitable one is seen in the price paid for the rubber, which varies, in French Guiana, from 3 francs to 8 francs a kilo according to quality. It is evident, therefore, that while industrial enterprise is under a cloud in South America, the interests of capitalists to turn these balata resources to account, the more so as rubber is one of those things that are not subject to suffer depreciation to such an extent as to make its production unremunerative.

THE CINCHONA PLANTATIONS OF MADRAS.

The Revenue Department of the Government of Madras issued a report by Mr. M. A. Lawson, Government Botanist and Director of Government Cinchona Plantations, on the receipt and expenditure, and general condition of the plantations. From the report, which is dated 10th June, 1895, and which deals with the Dodabettam, Nedivattam, and Pykara estates, it appears that the season of the past year was unusually dry, the rainfall on the Dodabettam estate being 26.85 inches, and on the Nedivattam estate 13.79 inches less than the gauged in the previous year; but the exceptionally dry season did not seem to have affected the crops to any appreciable degree, the yield of bark on the three estates having been 125,557 lbs., which, added to the amount in stock at the beginning of the year, made a total of 393,701 lbs.; of this quantity 198,572 lbs. were disposed of during the year, leaving in stock in the store-houses at the commencement of 1895, 195,129 lbs.

Dodabetta estate has greatly improved, and the estimated output of bark, viz., 100,000 lbs., is double the quantity in former years. This satisfactory result is to be attributed to trenching, deep digging, and heavy manuring. Where the weeds have been sown and manured, and these weeds in every year have greatly decreased the poverty of the soil.

Thousand pounds of dried crown bark were taken from this ground the year, an amount which could easily have been doubled extra quantity been required. The several plots known as the "Ground," and consisting of about 40 acres, have not now for years; the trees upon it are very fine, very healthy, of a uniform variety. All other varieties or species have been, and it is from the best trees in the centre of this ground that is taken which is required for the several estates; this means a strain of the very best sort of the crown barks is ensured. Those raised from this seed are undoubtedly more vigorous in growth than those raised from hybrids, the latter having greatly deteriorated during the last 12 years. Nevertheless, it cannot be that the plants raised even from these carefully-nursed trees are so vigorous or long-lasting as those raised from seed taken some 12 or 15 years ago, and it would therefore be very difficult if Government could procure a fresh supply of seed from America.

Nedivattam estate, the most difficult of all to deal with, is the great mixture of varieties which were originally put upon it, is not doing so well as had been hoped for, or no fault or want of care on the part of the superintendent. New plantations have been deeply trenched and dug, and manured, and yet in many plots the trees do not show the same growth as is visible on the Dodabetta estate. This appears due to two causes: First, most of the new plantings consisted of hybrids raised from Dodabetta seed (and these, as has been seen, have much deteriorated). Secondly, the land on which the trees have been planted was second-hand land, so to speak; that is to say, land upon which cinchona had been grown before. The plan adopted on this estate is as follows:—When a plot is cleared, the trees are cut down but not uprooted, and the ground is not meddled with for two or three years; by this time the stools of the trees have begun to shoot three or four feet in height, and the ground is also covered with a dense growth of weeds. The land is then pitted, but the pits are not disturbed. The shoots afford shelter to the young plants, and the weeds conserve and add to the nutritious properties of the soil. If the weeds are entirely removed, and the whole land kept perfectly clean, what little organic matter is left on the surface of the soil is burnt up during the hot weather, and the nitrogenous matter and all soluble salts are washed down during the rains, the result being that the land is left very poor. The Pykaia plantation has greatly improved during the last 10 years. The trees on it are for the most part of a good sort, and crown hybrids, and all the young plantations have been well cultivated and manured. There are still patches of red bark there, upon the plantation, and there is a considerable area of land planted up 12 years ago with Nedivattam hybrids. These plots will in due course be replaced with pure *Cinchona*; a small portion on a barren ridge has been abandoned for good, as it is hoped that it may recuperate if left fallow for some years.

The manufacture of quinine and febrifuge in the factory of Nedivattam has continued almost continuously during the past year. 4,770 lbs. of quinine, and 1,756 lbs. of febrifuge were turned out during the year, of which 3,631 lbs. of quinine and 3,596 lbs. of febrifuge were sold during the same time leaving, together with previous amounts on hand, 4,984 lbs. of quinine and 1,946 lbs. of febrifuge on hand at the end of 1895. It is estimated that the value of the quinine, and other drugs manufactured at the factory during the past year would amount to 84,740 rupees.

COLOURING MATTERS IN WINES.

"Reichsgesetzblatt" of September publishes a Ministerial decree respecting the prohibition of the importation of wine coloured with coloring matters derived from tar (aniline dyes). The following is the substance of the decree in question:—

Whereas by agreement with the Royal Hungarian Ministries concerned, the importation of wine, from the 10th August, 1892, as to the prohibition of the importation of wines coloured with coloring matters derived from tar, is prohibited, so that in case such colouration is not shown by testing the wine with acetate of lead solution and amylic alcohol, as provided in the decree, a further test with yellow oxide of mercury is to be made in accordance with the instructions forwarded to the offices. Customs offices may only permit the importation of the wine if the tests show that the wine is uncoloured.

In cases of doubt, or when the test gives rise to suspicions that the wine has been coloured with coal-tar dyes, the opinion of one of the

Austrian or Hungarian experimental laboratories mentioned in Point 5 of the Ministerial Decree of August 10th, 1892, must be taken before the wine is rejected."

This decree is to come into force at once.

GERMAN COKE FOR AUSTRALIA.

Mr. Theodore M. Stephen, United States Consul at Annaberg, states that a dozen large sailing vessels have been chartered to load coke for Port Pirie, Australia, where it will come into competition with the Durham (English) coke. The Durham producers believed that they could retain without trouble the Australian market, having supplied it almost exclusively ever since it existed, but they may find German competition an important factor in the future.

ESTIMATION OF SULPHUR IN PYRITES.

IN regard to this controversy it will be remembered that as Mr. Gladding's criticism of Dr. Lunge's remarks on the Gladding process was somewhat free, it was stated in our issue of May 18th that Dr. Lunge would make a further statement in support of the position he had taken up regarding the point at issue. (See also *C.T.J.*, 416, p. 305; 408, p. 174; and 384, p. 191.) The following is his reply:—

Mr. Gladding has replied to my remarks on his previous paper on the estimation of sulphur in pyrites. His comments would certainly not give to any reader who had not my own paper before his eyes a fair idea of its purport. He states that I admit "that every modification proposed (by Gladding) is accurate in its nature, with one single exception." This conveniently passes over the fact that my "admission" had been saddled with the following addition, for which I had adduced ample experimental proof, "that not in a single case is Gladding's method more correct than mine, and that his modifications cannot be approved, as they greatly lengthen the time required for the analysis, without any corresponding advantage whatever."

In one point, and that just relating to the principal novelty in Gladding's process, I declared him to be entirely wrong, viz., in his denial of the fact that it is very easy, by a special kind of washing, to avoid leaving any sulphur in the ferric hydroxide. This point is even more decidedly misrepresented by Gladding—of course unintentionally—than the others. He says that I "admit that students in my own laboratory have sometimes failed to get out all the sulphur through imperfect washing." I must really complain of this way of quoting my paper against myself, seeing that I immediately followed up the above by the express statement that such failures occurred in every case through having washed in the usual way, instead of the special way prescribed by me for that object; and that the same men have succeeded in every case after their attention had been drawn to this point. That beginners, like those I was speaking of, will make mistakes in most other analytical methods as well, until their attention is drawn to their having neglected some essential precautions, is too patent to be dwelt upon. Nor is it my business to find out why Mr. Gladding and his assistants have failed in a process which succeeds in the hands of all beginners in my laboratory, and which is practised by hundreds of chemists, none of whom have ever found any fault with it.

After such an involuntary "admission" of imperfect manipulation on Mr. Gladding's part, it is not possible to take the accuracy of his further results for granted which are contradictory to mine, concerning the differences between our two methods. I repeat that I have afforded in my paper, by a large number of comparative assays, complete proof that (except when the washing was intentionally interrupted before completion) absolutely the same results are obtained by both methods, mine, however taking considerably less time than his. It seems to me perfectly unnecessary to repeat such proofs, since nothing new can possibly be brought out by it, and I must altogether decline to carry on further discussion with an opponent who treats my paper and work in the above-mentioned style, rewarding my studied fairness by construing it into all sorts of distorted "admissions," and not appreciating the perhaps exaggerated courtesy with which I had explained a decided error in his description of the decomposing mixture as being perhaps due to a clerical mistake.

Mr. Gladding seems to have felt that it was necessary to bring heavier metal against me than his own assertions, and he therefore quotes a private communication from Prof. Richards, of Harvard College. He does not mention anything of Prof. Richards having sanctioned the verbatim publication of the "private" communication. For my part, until the contrary is proved, I beg leave to doubt that Prof. Richards would publicly have used expressions accusing me of ignorance on a point "which has been known for a number of decades," viz., the occlusion of barium chloride on the sulphate. Before doing so, he would have looked not merely at my last paper, but also on those I had previously written on the estimation of sulphur

in pyrites. He would then have found that I have made researches on this subject for the last fifteen years, and that in my communications the previous work of Fresenius, concerning the difficulty of removing the barium chloride from the sulphate, is referred to as common knowledge. He would then not have misunderstood my last paper as denying that patent fact, which he has so thoroughly investigated in a paper published subsequently to mine. He would have acknowledged that I could not have meant anything else than claiming for my special process the greatest possible approach to truth, which would not be attained by preventing all and every occlusion of barium chloride, seeing that the solubility of the barium sulphate in the acid liquid must cause an error in the opposite direction. I am quite sure that Prof. Richards, like every other chemist, is aware of the fact that not one of our analytical separations is mathematically perfect, and that the best analytical methods are those in which unavoidable but opposite errors are as nearly as possible balanced, and which thus gives a closer approximation to the truth than methods in which one of these errors is eliminated, but the compensating error in the opposite direction is allowed to remain. I have never claimed that the precipitate of barium sulphate obtained according to my method was absolutely devoid of barium chloride, no more than in the opposite direction, that no barium sulphate whatever remained dissolved in the acid liquor; my claim has been that my method, by compensation of unavoidable errors, gives correct results. I need not, however, comment any further upon Prof. Richards' private letter to Gladding, since everything of importance in this controversy is settled by an authority which Prof. Richards will certainly approve of; viz., a passage in his own paper in the *Zeitschrift für anorganische Chemie*, 1895, 8, 418, which I translate verbatim:

"Moreover the observation is of interest, that the error caused by occlusion ordinarily just about compensates that caused by the solubility of the sulphate, so that the final corrected result is almost the same as the real weight. The average of the uncorrected results is 0.3215 in lieu of 0.3214 gram."

This, I think, disposes of the aid which Mr. Gladding has solicited from Prof. Richards in his attack upon me.

Modern Oil Engines.

THE "PRIESTMAN" ENGINE.

THE Priestman Oil Engine, manufactured by Messrs. Priestman Bros., Ltd., of Hull and London, is made in three designs, fixed horizontal (Fig. 1), portable (Fig. 3), and marine (Fig. 2). These engines are very extensively used for all kinds of driving purposes, and have already been adopted by nine different Governments. This

steam, or other engines. It is used to advantage for corn machinery in country places, pumping, hauling, and ore crushing in mountainous districts, etc., and where skilled labour is not obtainable coal is dear or difficult to procure, water is scarce, and steam power costly. The engine is so simple that it can be worked by unskilled hands with the best results. There is no cartage of coal (which in many cases more than covers the cost of working the oil engine) there is no water consumed, another great saving in outlying districts. A great number of repetition orders are being constantly received which is naturally one of the best proofs of any invention. Messrs.

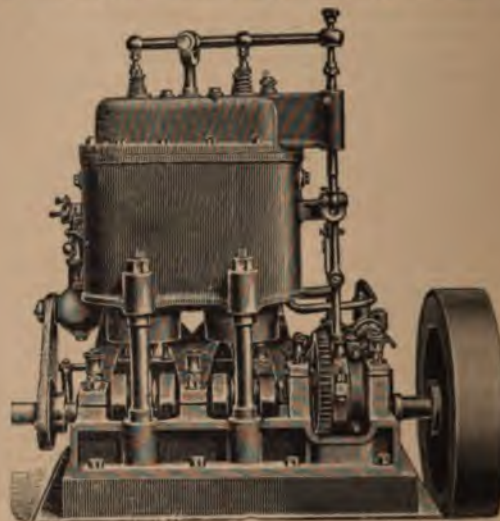


FIG. 2.

Priestman have further developed the marine type of oil engine for propelling launches, barges, trawlers, etc. These engines are fitted with the McGlasson reversing propeller. The Priestman Oil Engines of 1 h.p. and upwards are fitted with the new patent self-starter. They are now being made in sizes from 1 to 65 nominal horse power. The motive power is obtained from mineral oil, which, having been mixed with air under pressure, is drawn into the cylinder, and ignited by electric spark, from a small ordinary battery supplied with the engine. To start the engine, after heating the vaporiser a few minutes, it is

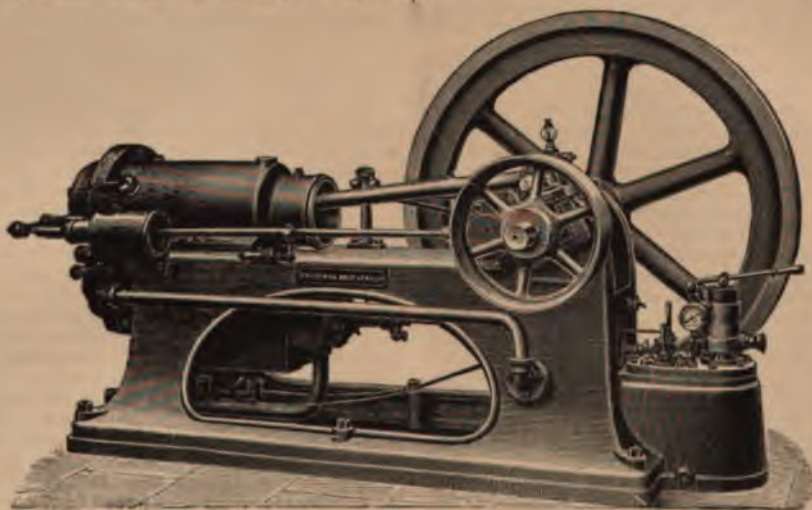


FIG. 1.

engine is greatly in demand for electric lighting, pumping at mansions, collieries, &c., having proved itself to be a thoroughly reliable and economical motive power.

This engine has the advantage of a gas engine, without being dependent upon a supply of gas. The cost of working has been reduced to a low figure, and many engines are not costing the users more than one halfpenny per actual horse power per hour. The cheapness of the engine is further demonstrated by the fact that no driver is required, and the engine itself, being self-contained, costs less to fix than gas,

necessary to admit a small quantity of oil vapour into the cylinder giving a turn or two to the flywheel. Little or no attention is required working the engine, as should the oil become exhausted it will cease to run. The Priestman Oil Engine works upon a different principle to any other oil engine in the market. It is now admitted by those who have tested the various systems, that the principle adopted in the Priestman Oil Engine enables the users to run for much longer periods without cleaning the internal working parts, than is the case where the oil is gasified in heated chambers.

Trade Notes.

ACCIDENTS.—Within the last seven days there have been ties in Salford from explosions of petroleum lamps. At n-Thames, and at Sidcup, Kent, two other fatalities

OF CHEMICAL INDUSTRY: Nottingham Section.—The g of this section will be held at the University College, 1, on Wednesday, November 6th, at 7-30, when the chair- J. Carulla, will deliver the opening address.

OF CHEMICAL INDUSTRY: Manchester Section.—The g of the session will be held at the rooms of the Chemical oria Hotel, on Friday, November 1st, at 7 p.m., when the f the section, Mr. George E. Davis, will deliver the opening "A Quarter of a Century in the Heavy Chemicals Trade."

MOTOR TRAMCAR BURNT.—Last week during the trial gow of a tramcar fitted with a new oil motor, invented by n, a local engineer, the oil tank was set on fire, and the car n the centre of the street. Forty passengers, mostly town left the car in safety. The flames were eventually d by the fire brigade.

THE PETROLEUM TRADE.—Last week there was launched from the shipbuilding yard of Sir W. G. Armstrong, Mitchell, and Co., a very large petroleum tank steamer, which has been built to the order of Messrs. Samuel and Co., London, the owners of the Shell line of steamers. The new vessel is the largest tank steamer in the world. She has been designed to carry out cargoes of oil to Asiatic ports and to bring general cargoes homeward. This has been rendered possible by means of elaborate arrangements made for purifying and ventilating the oil tanks after discharging their liquid cargo. The vessel is 307 ft. in length, and of 7,000 tons register.

CALCIUM CYANATE.—The substance $\text{Ca}(\text{CNO})_2$ has been hitherto a laboratory curiosity, but now promises to become an important substitute for nitrate of soda, as it contains a larger proportion of assimilable nitrogen. A mixture of limestone and coke is submitted to a preliminary temperature of $1,500^\circ$ in an electric blast furnace, and is then superheated in the same furnace to $2,500^\circ$ in presence of a large excess of pure nitrogen, and finally to oxidation by means of air, the oxygen of which is retained by the product, whilst the nitrogen conveys the heat due to the oxidation into the electric chamber. The operation must be conducted in a large furnace, so that the calorific yield may be sufficiently economical. The assimilation of the nitrogen of this product by vegetation does not appear to be doubtful.

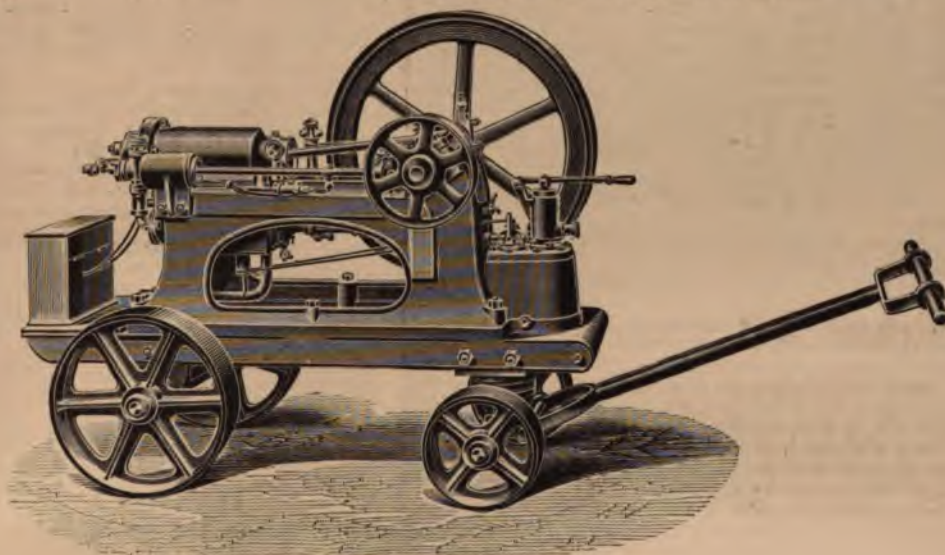


FIG. 3.

ALS OF CLYDE TO BE UTILIZED.—The Aluminium Com- secured the Falls of Foyers, is negotiating for water power of Clyde. The company propose to use the Bonnington Linn Falls, leaving Stonebyres alone. Negotiations have satisfactorily so far as the Aluminium Company is con- enough a slight hitch has occurred with one of the pro- he estates upon which the falls are situated.

L.—Mr. Herbert E. Taylor, for many years manager of the ad Works (formerly carried on by Messrs. Pontifex and now by Messrs. Locke, Lancaster, and W. W. and R. d Sons, Limited), has resigned his position there, and the management of the works of the British White Lead Limited, at Northfleet. Mr. Oswald Hamilton has been onsulting engineer and chemist to the company. We are at, owing to the high favour the white lead of their manu- met with, the company has been obliged to considerably works. The necessary extensions of plant, etc., will be in a few weeks, and the output of white lead more than

BERIAN PHOSPHATE DISPUTE.—The French Government to cancel the concession made to a certain English com- working of the Algerian phosphate deposits. The English as the first to make them pay, and their success appears to the jealousy of the French. The withdrawal of the con- ased upon a legal point of some intricacy. It has been that the concessions given by the parishes were, strictly les and not leases. A sale, unlike a lease (which may be he Prefect) must be allowed by a decree. It is on account mality that the Prefect has been directed to cancel the per- gave. Common equity requires that the Englishmen should receive some compensation for the loss of their

GOLD PRODUCTION.—Block B Langlaagte Estate: Production for September—Mill, stamps running, 75; ore crushed, 7,887 tons; gold retorted, 2,662 oz. Tailings (cyanide process)—tons treated, 4,730; gold recovered, 532 oz. Concentrates (cyanide process)—tons treated, 244; gold recovered, 400 oz. Total gold recovered, 3,594 oz. Langlaagte Estate: Production for September—Mill, stamps running, 160; ore crushed, 21,172 tons; gold retorted, 7,226 oz. Tailings (cyanide process)—tons treated, 18,700; gold recovered, 1,973 oz. Concentrates (cyanide process)—tons treated, 645; gold recovered, 1,882 oz. Total gold recovered, 11,081 oz. Robinson: Mill, 13,623 tons of ore crushed, yielded in smelted gold 12,167 oz.; from concentrates (by chlorination), 1,320 oz.; from tailings (cyanide process), 1,590 oz.; from own ore, 15,077 oz.; from concentrates bought (by chlorination), 2,217 oz.; total gold recovered, 17,294 oz. Porges-Randfontein: Mill, stamps running, 60; ore crushed, 6,468 tons; gold retorted, 3,149 oz. Tailings (cyanide process)—tons treated, 3,660; gold recovered, 523 oz. Concentrates (cyanide process)—tons treated, 90; gold recovered, 249 oz. Total gold recovered, 3,921 oz., against 4,114 oz. for August. Jumpers: Crushed, 9,605 tons; obtained from mill, 4,849 oz. of gold; from concentrates, equal to 602 oz. of gold; from tailings by cyanide, 1,046 oz. of gold; total, 6,497 oz. of gold; profit, £10,370. The yield for August was 7,079 oz. Paarl Central: Mill crushed 5,312 tons, yielding 2,115 oz. of gold; cyanide works treated 2,992 tons, yielding 968 oz. of gold; total, 3,083 oz. of gold; total value, £10,790. Champ d'Or French: Mill worked during the month 27 days; crushed 5,700 tons, yielding 2,700 oz.; cyanide, 3,800 tons, yielding 1,075 oz.; total, 3,775 oz. Geldenhuis Estate: Crushed, 15,345 tons; obtained from mill, 5,567 oz. of gold; from tailings by cyanide, 1,668 oz. of gold; total, 7,235 oz. Geldenhuis Main Reef: 3,817 tons crushed, yielding 1,399 oz. of gold; 2,240 tons treated cyanide, yielding 689 oz. of gold.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Apparatus for Generating Acetylene. J. H. Exley. 18,719. October 7.
 Manufacture of Petroleum Soap. S. E. Von Graeve. 18,760. October 7.
 Producing Phosphorus, its Acids and Salts, from Mineral Phosphates, Bones, etc. H. Hilbert and A. Frank. 18,785. October 7.
 Recovering Carbonate of Lime from Caustic Soda Sludge. J. T. A. Walker. 18,836. October 8.
 Grinding and Mixing Portland Cement Materials. H. W. J. Cheffins. 18,847. October 8.
 Improvements in Obtaining Cyanides. J. B. Readman. 18,800. October 9.
 Extracting Sludge from Settling Tanks. W. Stubbs and W. H. Prescott. 18,897. October 9.
 Manufacture of Alkaline Plumbates from Ores and Oxides of Lead, and applying the said Plumbates to Manufacture of Pigments and Lead Salts. T. H. Cobley. 19,009. October 10.
 Improvements in the Manufacture of Soap. J. W. Barclay. 19,021. October 10.
 Producing a certain Bye-product for Fertilising and other Purposes. M. Bird. 19,054. October 10.
 Artificial Stone. A. Gosling. 19,021. October 11.
 Process and Apparatus for the Manufacture of Alkaline Silicates and Carbonated Alkali. G. Bamberg. 19,120. October 11.
 Production of Alkaline Cyanides. J. L. F. Vogel. 19,138. October 11.
 Obtaining Pure Concentrated Nitric Acid from dilute or impure Solutions. F. Valentiner. 19,192. October 12.
 Process and Apparatus for Manufacture of Alkaline Cyanides, Ferrocyanides, and their derivatives. G. C. Downing. 19,301. October 12.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

Improvements Relating to the Carbonization of Wool and other Material. H. Schirp, 19, Wichlinghauserstrasse, Barmen. Eng. Pat. 12,012. June 20, 1895.

The improvements are chiefly in the construction and arrangement of the plant. Smokeless combustion gases and hydrochloric acid gas are passed into a revolving carbonizing cylinder or drum. The HCl gas is obtained from the treatment of aqueous hydrochloric acid by vitriol, or by direct evaporation of the acid in the furnace. An exhaustor draws the carbonizing gases through the apparatus, and forces them through a neutralizer in the shape of a wet, coke-packed flue, prior to their discharge into the air. A drying chamber is arranged over the top of the carbonizing drum, from which the material to be carbonized is fed through a hopper into the drum.

Improvements in the Utilization of Zinc Blende for obtaining Metallic Zinc and Sulphur, and in effecting the Decomposition of Common Salt for the Production of Soda and Chlorine. J. Brock, A. E. Wareing, and F. Hurter, all of G 11, Exchange Buildings, Liverpool. Eng. Pat. 22,228. November 24, 1894.

The practice in former processes of heating a mixture of salt and blende is attended with difficulties. This patent divides the treatment into stages. First the blende is roasted in special kilns, forming the oxide and liberating SO₂, which is used in vitriol chambers producing sulphuric acid. Salt is decomposed with this acid and the sulphate of soda worked up by the Leblanc process (the sulphur being recovered from the waste), while the HCl given off is used to dissolve the oxide of zinc obtained in the first roasting operation, thereby forming chloride of zinc. The zinc chloride thus prepared is electrolysed, producing chlorine and metallic zinc. It is preferable that the chloride solutions should be fairly pure, and that they should be made to pass through the anode and cathode compartments in opposite directions, the cathode solution, for instance, flowing from cell No. 1 to No. 2, and the anode solution from No. 2 to No. 1.

Improvements in the Manufacture of Cyanides. J. E. Chaster, 30, Epple Road, Fulham. Eng. Pat. 15,941. August 21, 1894.

The aim of the patent is to manufacture potassium cyanide on a commercial scale. From 65 to 72% of anhydrous potassium or any other ferrocyanide is mixed with about 20% of a dry alkaline carbonate or carbonated alkaline earth. The mixture is well ground, and during the grinding 5% of dry charcoal is added along with enough tar, pitch, or other bituminous substance, to give the mixture the consistency of mortar. The whole is thoroughly mixed, and ground so as to ensure a perfect incorporation of the ingredients, and the resulting product furnaceed in the usual way. If desirable the mortar-like mixture can be pressed before furnaceed.

Improvements in the Manufacture of Cyanides. J. E. Chaster, 30, Epple Road, Fulham. Eng. Pat. 15,942. August 21, 1894.

Anhydrous ammonia gas is passed over a mixture of charcoal alkaline carbonate heated in a retort to a temperature high enough to effect dissociation. The carbonated alkali or alkaline earth employed depends upon the base that the cyanide is to have. When the gas has proceeded far enough the contents are turned into another vessel and lixiviated with water or alcohol. If the latter is used the lixiv vessels are covered and fitted with reflux condensers. The residue obtained is filtered and distilled in a separate still until only a residue remains, consisting of the marketable cyanide.

Improvements in the Treatment of Ground Slags intended for use as Fertilizers. C. H. Langdale, Mill House, Morpeth, and A. W. Laing, 2, Claremont Villas, Forrest Hall, Newcastle-on-Tyne. Eng. Pat. 19,192. June 19, 1895.

Brine containing salts of sodium, and potassium, such as salt, soda, chloride and sulphate of potassium, &c., is added to phosphoric acid slugs in the proportion of about 8 parts of brine to 92 of acid. The fertilizing power is augmented while the slag is put into a condition which enables it to be spread, &c., without objectionable Owing to the deliquescent properties of some of the salts the mixture retains its moisture longer than it would if water alone employed to wet the slag.

Improvements in Carboy Envelopes or Hampers. J. Brown, Oldham Newton Heath, and A. Berry, 21, Jackson-street, Fallowfield. Eng. Pat. 19,009. May 21, 1895.

Instead of the usual form of iron or steel bands interlacing vertical standards, the standards are disposed diagonally, being riveted to a medial band encircling the hamper, and also, at each point the standards cross one another.

Improvements in Materials for, and in the Manufacture of, Soft Soap. M. Perls, 62 and 63, Basinghall-street, London. Eng. Pat. 20,158. Oct. 1894.

This patent proposes the use of a special lye containing a considerable percentage of potassium chloride in place of the ordinary bined caustic and carbonated lyes hitherto employed. The saponification with this lye is quite a different process to that known as "E". Various methods are described for the preparation of this special lye which is made to contain from 15 to 40% of chloride of potash. A higher proportion is employed when the soap is made in the winter than the lower proportion in summer.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols continue firm, with 90's at 1s. 3d. and 50/90's at 40s. 5 1/4d. Carbolics acids are dull: crude, 60%, is quoted 1s. 6 1/2d., and 40%, 5 1/4d. Naphthas are rather better: Solvent is in fair demand at 1s. 2d., makers being well sold. Crude stands at 5 1/4d. Anthracene steady at 11 1/2d. for 30% A and 8 1/2d. to 9d. for B. Pitch 38s. to 38s. 6d., f.o.b. East Coast.

Sulphate of ammonia continues to maintain the past improvement. The demand has been fairly good at all ports. Efforts are again made to depress values, but holders are firm. Quotations: Beckton £9. 5s., London outside makes £9. 2s. 6d., Liverpool £9. 3s. 9d., Hull £9. 2s. 6d., and Leith £9. 3s. 9d., all p.p. For January-April £9. 15s. is asked at London, and £10. has obtained in the North. Nitrate is quiet.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, easier: Scotch warranted at 43s. 7d.; Middlesbrough, 38s. 7d. cash, and hematite, 48s. Copper, firm: Chili bars, G. O. B.'s and G. M. B.'s, close £45. 10s. to £45. 15s. cash, and £45. 17s. 6d. to £46. 2s. 6d. months. Tin, firm: Straits closed at £65. 12s. 6d. to £66. cash, and £66. 2s. 6d. to £66. 12s. 6d. three months; Aust £66. 12s. 6d.; English ingots, £69. Lead, steady: Spanish, 7s. 6d.; English, £11. 10s.; Silesian spelter, ordinary, £1 Nickel, 1s. 1 1/2d. Antimony, £31. Quicksilver: first hand 7s. 6d.; second hands, £7. 6s. Copper shares, steady: Cap to 2 1/2; Copiapo, 1 1/2 to 1 1/2; Libiola, 3 1/2 to 3 1/2; Mason and 2 1/2 to 2 1/2; Rio Tinto, 18 1/2 to 18 1/2; Tharsis, 5 to 5 1/2.

GLASGOW, WEDNESDAY.—Market steady, with fair business. Scotch done at 47s. 3d., 47s. 2 1/2d., and 47s. 3 1/2d. cash, also at 47s. 4 1/2d., and 47s. 5 1/2d. one month; closing with buyers at 47s. cash, sellers ask 47s. 3 1/2d. Cleveland done at 38s. 7 1/2d., closing with buyers at 38s. 7d. cash, sellers ask 38s. 8d. Cumb hematite done at 48s. 4 1/2d. cash, also at 48s. 7d. and 48s. 8d. month; closing with buyers at 48s. 4 1/2d. cash, sellers ask 48s. Middlesbrough hematite closes with buyers at 46s. 3d. cash.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

—Palm oil is quieter, and the business doing is limited, easier, prices being in favour of buyers, but the demand still indifferent. Linseed is steady, prices being well maintained at 22s. per cwt. for Liverpool makes in export casks. It is quiet, Liverpool refined being unaltered at 17s. 9d. per cwt.; American easier at 17s. 6d. per cwt. Castor oil is There is a moderate amount of business doing in good seconds at 2½d. First pressure French is quoted 2¾d. to 2½d. per lb. is little doing in tallow, but, so far, the market keeps steady. firm, but rather quiet, in all grades; common is moving at 4s. 4½d. per cwt. Spirits of turpentine are fairly active at 20s. 9d. per cwt. Petroleum is still quoted 5½d. to 6d. for refined and 6d. to 7½d. per gallon for American. URS are steady, without alteration in prices. Oxfordshire, common, £10., medium, £12., best, £15. re, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 50s., and common, 18s.; Irish, Devonshire, 40s. to 50s.; J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead, Venetian red, £6. to £10. Cobalt: Prepared oxide, black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, Oxide of iron: Common, £7.; medium, £10.; finest, £20. le, £22. 10s. to £25.

ISCELLANEOUS CHEMICAL MARKET.

is little change in the position of any of the staple products of trade. Quotations for caustic soda are unaltered, spot prices follow:—F.o.b. Liverpool, 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 10s.; 60%, £6. 10s. per ton, 10-ton lots and upwards. For powder there is still an active demand at £7. 10s., hardwood, verpool, and £7. per ton, softwood, f.o.r. makers' works; for 1896 are being done at £6. 17s. 6d. Ammonia alkali for this year's delivery at £3. 7s. 6d. per ton, bags, makers' A further advance in price of this is spoken of as probable for Chlorate of potash 4½d. per lb., and chlorate of soda lb. are spot prices; but offers for forward delivery are ¼d. less. Saltcake, in bulk, 22s. 6d. to 25s. per ton, prompt and delivery. Soda crystals quiet, and unchanged in value. steady at £3. 12s. 6d., f.o.r. Sulphate of copper firm at s., f.o.b. Prices are steady for potash, caustic and carbonate, ere is a good demand both for spot and forward delivery. ytic caustic potash, 90%, is now offered at £25. per ton. In and grey acetates of lime there is some business done for spot y delivery. In this branch of trade there is no improvement t in values. Yellow prussiate of potash quiet at 7½d. per lb. powdered arsenic is absolutely scarce, orders being in excess of price nominally £15. 10s., f.o.r. Garston, etc. Ammonia ner than sulphate, are generally firm. There is rather a better chemicals generally.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

stronger, and farther advanced in the direction of recovery, is of ammonia this week. As high as £9. 5s. has been paid for and at the time of writing that is accepted as the minimum here being no sellers now, so far as is known, at a lower figure. ble figures for forward delivery have also further sprung up, spring months £10. has already been conceded by more than yer. Views of continental correspondents, however, remain antagonistic to anything like a very marked or permanent y in this article. In the general chemicals market the late is fairly well held; prices are maintained, and the demand n good, and even brisk, for those sorts needed at the Baltic orts before freezing up. Such stocks are now considerably . In mineral oils and paraffins there is a continued activity of ctory volume, and no change of prices, except in paraffin spirit al), for which in some cases 9d. per gallon has been got. prices current are:—Soda crystals, 37s. 6d. nett, Tyne; h, 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett, w; caustic soda, white, 76° £9. 5s., 70/72° £7. 15s., 60/62° ., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching, £6. 10s. to £7. nett, Tyne; saltcake, 22s. 6d.; borax, English, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of -cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; ate of potash, 4½d. nett, for Scotch and English deliveries (for 4½d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); e of potash, 4¾d. less 5%, Liverpool; nitrate of soda, 7s. 6d.

to 8s.; sulphate of ammonia, £9. 5s. prompt, f.o.b. Leith; salammioniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £16. 15s., less 5%, Liverpool; paraffin scale, hard, 2½d., and soft, 1¾d. to 2¾d. per lb.; paraffin wax, 120° semi-refined, 2¾d. to 2¾d.; paraffin spirit (naphtha), 8d. to 9d. per gallon; paraffin oil (burning) No. 1, 6½d., and crystal, 6¾d., at works, for Scotch buyers (English sales about 1d. lower); ditto (lubricating) 865° £4. 10s. to £5., 885° £5. to £5. 5s., and 890/895° £5. 10s. to £6. 10s. Week's imports of sugar at Greenock were 12,679 bags beet unrefined, and 500 hags beet refined.

REPORT ON MANURE MATERIAL.

There is a fair amount of business passing, but at a low scale of prices, sellers being still more plentiful than buyers. The quotations for mineral phosphates are unchanged, but for early shipment there would be sellers at a concession upon the quotations. There is less inquiry for River Plate bones, and the nearest value of cargoes of handy size is £4. 2s. 6d. per ton, large ones being scarcely worth more than £4. Crushed Kurrachee bones, for shipment, offer at £4. 1s. 3d. per ton, ex quay, but £4. is probably nearest value. Bombay bone meal, for shipment, has been sold at £4. per ton, ex quay, and that is closing value. For parcels on spot £4. 5s. per ton, ex store, is required. Nitrate of soda is somewhat firmer. Spot value of fine quality is 7s. 9d. per cwt. Due cargoes are worth about 7s. 7½d. per cwt. for ordinary quality.

LIVERPOOL MINERAL MARKET.

Our market has maintained its firm tone, with the prospect of an upward tendency. Manganese: Arrivals have been practically nil, and with a strong demand, prices are unaltered. Ground manganese is in good demand at unchanged prices—£6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore is in request; prices are firm, but unaltered. Chrome ore: Arrivals have somewhat increased; the demand is good, and prices are firm without alteration. Bauxite continues in brisk demand at last quotations—20s. per ton for first quality, 16s. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. French chalk: Arrivals continue steady, but scarcely fast enough to keep pace with the demand, hence prices are somewhat advanced—70s. to 75s., 80s. to 90s., and 100s. to 110s. per ton for "Angel White" qualities, according to grade. Wolfram and scheelite continue firmer, with little in stock. Arsenic continues in good demand at £16. Fuller's earth is in fair request at unaltered prices—50s. for lump, and powdered at 75s. to 80s. per ton. Umbers and ochres meet with a ready sale at late prices, prime quality umber being done at 40s. per ton. Carbonate and sulphate of barytes are in fair request, and bringing full prices, with the probability of an advance. Bog ore is steady at 25s. per ton. China clay is firm at 20s., 30s., and 35s. per ton, according to grade.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals are in fair shipment, and stocks all round are small. Prices continue without change. Soda crystals, £2. 5s. per ton, gross weight, locally. Sulphur scarce, at £3. 17s. 6d. 76/77° caustic in fair demand, at £9. 5s. to £9. 10s. Other articles unaltered.

Bleaching powder, softs, £7. 5s. per ton, nett; hard, £7. 10s. per ton, nett; caustic soda, 76/77°, £9. 10s. per ton, nett; do., 70°, £7. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; soda ash, 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ton, nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 15s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 5s. per ton, gross weight; do., 2 cwt. bags, £2. 5s. per ton, nett weight; chlorate of potash, 5d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

SALT.—South Durham salt steady, at 9s. 6d. per ton, f.o.b., for common, and about 15s. per ton for blocks, f.o.b. Tees.

COALS.—Market continues about the same. There is a fair demand for gas, house, and steam coals. The Durham pits are work-full time; those in Northumberland not quite so well. Best steam

coal, 8s. 6d. to 8s. 9d. per ton; second qualities, 7s. 6d. to 7s. 9d. per ton; small steam, 3s. 9d. to 4s. per ton; gas coals, 6s. 9d. to 7s. per ton; household coals, 10s. to 11s. per ton; unscreened bunker, 6s. to 7s. per ton; coke in demand, 14s. to 15s. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—Business here is being well maintained, and a sharp rise in linseed oil of about 10s. has been experienced. The imports into Hull up to date have been:—Linseed, qrs., 463,145, against 465,711 a year ago; rapeseed, qrs., 106,757, against 108,071; cottonseed, tons, 134,429, against 134,166; olive oil, casks, 10,737, against 18,555; rape oil, casks, 6,397, against 6,370; tallow, cwt., 11,268, against 24,155; turpentine, barrels, 14,584, against 15,195. Linseed oil on the spot has improved about 10s. per ton, prices closing firm at 20s. 3d., naked; month offers at 20s. 1½d.; November-December worth 19s. 3d., and January-April 18s. 9d., the last-mentioned price being also quoted for May-August; boiled and refined from £1. 10s. to £2. per ton extra. The exports for the week have been 1,400 cwt. Refined cotton oil quiet, at 15s. 9d., naked, spot. At this there are buyers for November-April, with sellers at 15s. 10½d.; casks 17s. 6d., and ordinary barrels 30s. per ton extra. Turpentine, 20s. 9d. per cwt. Olive oil unchanged. Cod oil from £17. to £21. per ton. Tallow continues in good demand at the advance. Boiled siccative oil, £13. per ton. Liquid soap, £16. New wool oil, £14. per ton.

CAKES.—Linseed, a firmer tone: 95% pure, £6. 5s. per ton. Oil cakes, £5. 2s. 6d. to £5. 7s. 6d. per ton. Cotton cakes in an improved demand; ready cakes not plentiful; market firm; best makes, spot, £4. 10 to £4. 2s. 6d.; seconds, £3. 15s. to £4.; November-April, £3. 12s. 6d. to £3. 15s. per ton. Rape cakes: Black Sea, £2. 7s. 6d.; feeding, £4. 2s. 6d. per ton.

PAINTS.—A fair good demand, and export keeps makers active. Prices are:—White and red leads, also oxide of zinc, unchanged. Black, blue, yellow, yellow ochre, venetian red, and red oxide paints from £11. per ton. Ready-mixed paints in bulk, 17s.; packed in various-sized lever tins, 24s. 6d. per cwt. Paint remover from 25s. to

30s. per cwt. Dry colours unchanged. Imperial black varnish, £5. 10s. per ton. Oak varnish, 5s. 6d. per gallon.

New Companies.

Richards and Co., Ltd.—CAPITAL £10,000., in £1. shares. company has been formed to acquire the business of coal, manure seed merchants, etc., now carried on at Gweek, near Helston, Cornwall. The subscribers to the memorandum of association are: Knowles, Ruan Minor, Cornwall, farmer; C Rows, Wendron, Cornwall, farmer; S. Hendry, Polgrean Cury, Cornwall, farmer; Collins, Gweek, Cornwall, miller; P. Richards, Gweek, Cornwall, merchant; J. Boaden, Mawgan, Cornwall, farmer; J. B. Kempthorne, Cury, Cornwall, farmer.

Barrett and Tatham, Ltd.—CAPITAL £7,500., in £5. shares. This company has been formed to acquire the business of M. Barrett and Tatham, known as the Castleton Chemical Co., as carry on the business of chemical manufacturers and merchants. subscribers to the memorandum of association are:—H. Barrett, Castleton, near Manchester, chemist; W. Tatham, junr., Park House, Rochdale, chemist; W. Tatham, Park House, Rochdale, manufacturer; A. Hill, 40, Lord-street, Rochdale, woolstapler; H. Wilkinson, 4, Malvern Villas, Bury, currier; T. Cryer, 3, Church Hill, Littleboro', chemist; R. Fenton, Rochdale, calico printer.

Gazette Notices.

PARTNERSHIP DISSOLVED.

M. COLLIER, G. H. LAWFOED, and J. WOODCOCK, manufacturing chemists, Liversedge, under the style of John Collier and Co., as far as the business of J. Woodcock.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

SMITH, HARRY, Horbury Yorkshire, dealer in chemicals and drugs.

IMPORTS OF CHEMICAL PRODUCTS

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending October 12th.

Acetate of Lime—
U. States, 1,508 pks. Lister & Biggs

Acetic Acid—
France, 1 pk. White Bros.
Holland, 58 Beresford & Co.
" 51 A. & M. Zimmermann

Acid Phosphates—
U. States, 100 pks. Seaward Bros.

Aniline—
Germany, 3 pks. L. C. & D. Rly.

Antimony Ore—
Portugal, 50 t. J. Bamber
A. Turkey, 75 French & Smith
China, 20 Soundy & Sons

Asbestos—
Germany, 620 Craven & Co.
France, 29 Girard Frs. & Co.

Barium Chloride—
Germany, 23 pks. Petri Bros.

Barytes—
Belgium, 26 cks. A. Zumbach & Co.
Holland, 44 Robertson, Selley & Co.

Bromine and Bromide of Iron—
Belgium, 112 J. L. Lyon & Co.
Germany, 19 S. H. Willoughby
Germany, 33 pks. A. & M. Zimmermann

Camphor—
Germany, 2 pks. J. W. Drysdale & Co.

Caoutchouc—
Singapore, 202 c. E. Boustead & Co.
" 455 L. & I. D. Jt. Co.
Zanzibar, 78 Clarke & Smith
" 29 Anderson, Weber & Smith

Aden, 29 Wallace Bros.
M'dagasc'r, 100 Procter Bros.
U. States, 184 Prop. Bull. Wf. Allan Bros. & Co.

Zanzibar, 277 L. & I. D. Jt. Co.
Aden, 5 S. Figgis & Co.
Germany, 30 L. & I. D. Jt. Co.
Rangoon, 8
Mozambique, 28
Madagascar, 52

Castor Oil—
Spain, 8 butts Frubling & Goschen
Italy, 40 cks. Barron, Harveys & Co.

E. Indies, 250 cs. F. A. Hodgkinson & Co.
Italy, 30 Stebbing & Co.
E. Indies, 134 Ross & Deering
France, 70 pks. R. W. Greeff & Co.

Caustic Potash—
France, 30 c. J. A. Reid
Belgium, 105 Petri Bros.

Chemicals (otherwise undeciphered)—
Germany, 35 pks. T. H. Lee
" 30 A. & M. Zimmermann
Belgium, 6 cs. O. Scholzig
Germany, 5 L. & I. D. Jt. Co.
Holland, 15 cks. Philipps & Graves
" 11 pks. J. Barber & Co.

Copperas—
Germany, 20 pks. C. D. Fox

Cream of Tartar—
France, 30 pks. Finlay & Co.
Holland, 5 W. C. Bacon & Co.

Holland, 4 Kirkpatrick & Co.
France, 4 F. C. Devon & Co.
" 17 B. & F. Wf. Co.

Dextrine—
Germany, 200 pks. W. Balchin
" 120 H. Lorenz
" 150 Seaward Bros.
" 103 R. G. Hall & Co.
Holland, 10 H. Lorenz

Dyestuffs—
Annatto
E. Indies, 1 pk. Anderson, Weber & Smith
France, 3 B. & F. Wf. Co.

Argols
France, 1 pk. B. & F. Wf. Co.

Cochineal
Canaries, 36 pks. W. M. Smith & Sons

Cutah
E. Indies, 100 pks. Ralli Bros.
B. Burmah, 112 W. H. Cole & Co.

Extracts
France, 575 pks. Boucher, Mortimore & Co.

Canada, 80 A. J. Humphery
U. States, 50 R. Warner & Co.

Germany, 1 T. H. Lee
Belgium, 25 Leach & Co.

Austria, 150 A. J. Humphery
U. States, 1 H. Herrmann
France, 23 L. & I. D. Jt. Co.

", 10 T. H. Lee
" 19 B. & F. Wf. Co.
Germany, 200 J. Knill & Co.

Singapore, 274 pks. S. Barrow & Brs., Ltd.

Indigo
E. Indies, 35 cts. L. & I. D. Jt. Co.

", 8 Arbuthnot, Latham & Co.

", 16 L. & I. D. Jt. Co.
" 12 Walker, Munzie & Co.

Logwood
Belize, 61 t. W. Shelcott

Myrabolams
E. Indies, 683 pks. J. Allen & Co.

Shumac
Canada, 300 pks. Union L. Co.

Tanner's Bark
Melbourne, 50 t. Deering & Robottom
Algoa Bay, 70 Hammond & Co.
S. Australia, 120 Beresford & Co.

N. S. Wales, 23 J. Chappell
" 40 Dyster, Nalder & Co.
N. Zealand, 20 L. & I. D. Jt. Co.

Turneric
E. Indies, 300 pks. Ralli Bros.
" 250 Lucas & Spencer's Wf. Co.

Valonia
A. Turkey, 6 t. M. D. Co.
" 6 Beresford & Co.
" 9 c. J. Knill & Co.

", 9 F. Claydon

Farina—
Italy, 136 pks. C. Ten

Germany, 25 J. Barber

France, 8 L. & I. D. Jt. Co.

Germany, 100 E. & T. C. Terman

", 50

Glucose—
France, 200 pks. 200 c. Taggart

Germany, 25 205 L. & N. W.

", 250 250 P. V. muller

", 950 950 Robt. Brs.

", 500 500 Pelley & Humph.

", 500 500 J. New

", 505 3-451 J. New

", 500 200 F. G.

", 650 882 L. N. & Co.

France, 200 200 Dem.

Germany, 25 208 R. K.

U. States, 100 570 T. M. U.

Germany, 15 104 M. D.

U. States, 348 1,510 L. S. S. E.

", 100 100 G. Clark

", 900 900 R. G.

", 1,500 900 J. R. G.

", 800 800 Fellows, M.

", 50 200 L. & I. D. Jt. Co.

", 350 1,283 H. S. S.

Glue—
— £1,366

Acetate—any, 10 pks. Beresford & Co.
any, 4 F. Boehm
anese—any, 4 t. H. Johnson & Sons
re—any, 97 t. Fox, Roy & Co.
any, 4 L. & I. D. Jt. Co.
any, 240 A. Hunter & Co.
any, 50 Perkins & Homer
Alcohol—any, 4 dms. Stein Brs.
any, 100 brls. F. H. Mayes
any, 7 Stein Brs.
any, 5 H. Lorenz
any, 22 G. F. Poole
any, 280 F. Claydon & Co.
any, 1,221 W. M. Smith & Sons
any, 130 L. & I. D. Jt. Co.
ha—any, brls. W. G. Blagden
any, 2 cks 8 pks. Phillips & Graves
any, 40 brls. W. Harrison & Co.
any, 225 cks. W. M. Malcolm & Co.
any, 26 H. Hill & Sons
any, 35 T. Simpson
any, 1,000 Linch, Moeller & Co.
go—any, 110 cks. E. & T. Pink
any, 10 brls. B. S. Cohen
any, 36 cs. Drolenau & Bremner
any, 408 N. S. S. Co.
ium Bicarbonate—any, 23 pks. A. & M. Zimmermann
ium Bichromate—any, 5 pks. T. H. Lee
ium Carbonate—any, 20 c. J. A. Reid
any, 203 H. Lambert
any, 422 W. G. Blagden
any, 100 Petri Brs.
any, 6 J. A. Reid
ium Chloride—any, 500 pks. F. W. Berk & Co.
ium Cyanide—any, 10 pks. W. Balchin
e Stone—any, 1 t. W. Taylor & Co.
any, 24 c. Magee, Taylor, & Co.
any, 4 t. Stobbs, Wilson, & Co.
any, 350 brls. Moore & Hole
any, 1,200 F. & S. Chiesman & Co.
any, 750 L. & I. Dk. Co.
tre—any, 1,275 bgs. Lucas & Spencer's
any, 40 cks. L. & I. Dk. Co.
any, 50 C. Wimble & Co.
any, 50 J. Hall & Son
any, 217 P. Hecker & Co.
any, 105 bgs. W. Harrison & Co.
Ash—any, 1,600 c. R. Waters
any, 200 pks. R. Warner & Co.
any, 40 Leach & Co.
any, 285 Sawyer, Sons, & Co.
any, 93 F. Claydon & Co.
any, 40 G. Rahn & Co.
any, 35 Phillips & Graves
any, 60 T. H. Lee
any, 142 Phillips & Graves
any, 1,457 Little & Johnston
any, 270 T. Ronaldson & Co.
any, 210 A. J. Smith
any, 180 E. & T. Pink
any, 24 Forwood Brs. & Co.
any, 1,230 Horne & Co.
ne—any, 115 bgs. H. Hill & Sons
any, 100 sks Walbaum & Tosetti
any, 164 bgs. H. Hill & Sons
r Dioxide—any, 10 pks. F. W. Crombie & Co.
any, 200 brls. Mordaunt Brs.
any, 2,836 Linck, Moeller, & Co.
any, 5 pks. L. & I. D. Jt. Co.

Tartaric Acid—Germany, 2 pks. Domeier & Co.
France, 39 B. & F. Wf Co
Spain, 10
France, 10 F. C. Devon & Co.
Holland, 58 B. & F. Wf. Co.
Ultramarine—Belgium, 3 brls. W. Harrison & Co.
Germany, 24 cks. J. Hamilton
Holland, 8 Magee, Taylor, & Co.
Varnish—U. States, 33 pks. Allan Brs. & Co.
Belgium, 4 Dawson Brs.
Belgium, 2 Wilson & Co.
Verdigris—France, 1 pk. B. & F. Wf. Co.
White Lead—Holland, 9 cks. Colthurst & Harding
France, 23 W. Harrison & Co.
Germany, 20 N. J. Fenner & Co.
Holland, 12 H. Lambert
Holland, 105 T. & W. Farmiloe
Belgium, 12 J. Barber & Co.
Belgium, 22 Arnati & Harrison
Germany, 17 Colthurst & Harding
Germany, 25 S. H. Willoughby
Holland, 23 Burrell & Co.
Holland, 27 Randall Bros.
Germany, 52 brls. Magee, Taylor, & Co.
Wood Pulp—Norway, 2,100 pks. Becker & Co.
Holland, 80 Johnson & Jorgensen
Germany, 510 E. J. & W. Goldsmith
Holland, 1,344
Sweden, 30 Henderson, Craig, & Co.
Holland, 108 Beadle Brs.
Norway, 831 W. E. Bott & Co.
Germany, 50 C. J. Capes & Co.
Zinc Oxide—Holland, 50 brls. M. Ashby, Ltd.
Germany, 60 pks. Burrell & Co.
Germany, 150 brls. M. Ashby, Ltd.
Holland, 100 cks. C. Tennant, Sons, & Co.
Belgium, 50 J. Matton
Belgium, 20 Rees & Deering

LIVERPOOL.

Week ending October 10th.

Alum—Rotterdam, 10 cks.
Antimony Ore—Antofagasta, 300 sks.
Barytes—Rotterdam, 11 cks.
Bleaching Powder—New York, 21 pks.
Bone Ash—Zarate, 98 bgs. J. Nelson & Sons, Ltd.
B. Ayres, 705 W. B. Dickinson
Gd. Canary, 594 Gd. Canary Coaling Co.
Boracic Acid—Leghorn, 27 cks.
Borate of Lime—Iquique, 1,148 bgs.
Antofagasta, 1,450
Valparaiso, 600 sks.
New York, 2,260
Caoutchouc—Valparaiso, 8 pks. Kleinwort, Sons & Co.
Castor Oil—Genoa, 16 cs.
Leghorn, 5
Citric Acid—Messina, 12 cks.
Colours—Antwerp, 1 ck.
Rotterdam, 25 cs.
Cream of Tartar—Barcelona, 20 cks.
Dyestuffs—Algarrobia, Valparaiso, 401 sks.
Argols, Leghorn, 1 ck.
Oporto, 44 German Bank of London
Cochineal—Gd. Canary, 11 bgs. Canary Island Trading Co., Ltd.
Extracts—Bordeaux, 100 cks.
Philadelphia, 105 brls.
Ghent, 50

Fustic—Baltimore, 1,610 pcs. W. H. Thompson
Tampico, 2,954 ps. D. Midgley & Sons
Parnahiba, 2½ t. C. Singlehurst
Myrabolams—Calcutta, 834 pkts.
Saffron—Valencia, 2 cs.
Turmeric—Calcutta, 500 bgs.
Gelatine—Paris, 4 cs. J. Woolley, Sons & Co.
Glucose—New York, 200 brls. T. M. Duche
Baltimore, 50
Glue—St. Nazaire, 9 cks. 8 cs. T. Robinson & Co.
Bremen, 60 pks. Cunard S. S. Co., Ltd.
Boston, 8
Havre, 3 cs.
Rotterdam, 3 cs.
Guano—B. Ayres, 1,848 bgs. Williamson, Milligan & Co.
Limestone—Antwerp, 2 cs. J. T. Fletcher & Co.
Linseed Oil—Stettin, 45 brls.
Manganese Ore—Poti, 2,440 t.
Vizagapatam, 2,062 Darwen & Mostyn Iron Co.
Poti, 2,600
Mica—Calcutta, 28 cs.
Mineral—Vera Cruz, 2,737 bgs. Bessler, Waechter & Co.
Ochre—Marseilles, 5 brls. Heigham & Co.
Ozokerit—Stettin, 20 bgs.
Paint—Boston, 40 cs. M'Nicol & Co.
Philadelphia, 3 kgs.
Paraffin Scale—New York, 310 brls. Thompson & Bedford
Baltimore, 100
Philadelphia, 282
Potash—Hamburg, 10 cks.
Stettin, 2
Potash Salts—Hamburg, 101 cs.
Permian Stone—Leghorn, 10 cs.
Messina, 10 bgs.
Pyrites—Huelva, 944 t.
Rosin—Baltimore, 400 brls.
Brunswick, Ga., 2 000
Boston, 3,243
Rosin Oil—Rotterdam, 7 brls.
Saltpetre—Hamburg, 30 kgs. 2 cks.
Soap—New York, 548 brls. 700 bxs 38 crts.
Smyrna, 84 cs. 10 Pacific S. Nav. Co.
Genoa, 550 Weaver & Sterry
Leghorn, 39 Paul Behrends
Naples, 1,875 brls.
N. Orleans, 10 cs. W. Foggett
Boston, 32
Philadelphia, 20 J. Crossfield & Sons
Copenhagen, 20
Soapstone—Bordeaux, 200 bgs. G. G. Blackwell
Sodium Nitrate—Iquique, 16,246 bgs.
Antofagasta, 3,800 Lafuerti, Walker & Co.

Starch—New York, 50 bgs. T. M. Duche & Sons
Boston, 100 brls. G. Bartol & Co.
Hamburg, 80 cs.
Antwerp, 488 J. T. Fletcher & Co.
Ghent, 218 J. T. Fletcher & Co.
46
Stearine—Antwerp, 3 cks. J. T. Fletcher & Co.
Rotterdam, 7 brls.
Superphosphate—Antwerp, 200 bgs.
Tallow—Las Palmas, 36 pps. 6 hds. Gd. Canary Coaling Co.
Zarate, 170 J. Nelson & Sons
B. Ayres, 60 113 hf. pps.
Tar—Antwerp, 8 cks.
Tartar—Bordeaux, 12 cks.
Tartaric Acid—Hamburg, 1 ck.
Rotterdam, 4
Messina, 12
Treacle—Philadelphia, 1,000 brls.
Bordeaux, 18 cs.
Turpentine—Brunswick, Ga., 1,820 cks.
Ultramarine—Bremen, 2 cks.
Rotterdam, 5 cs.
Verdigris—Bordeaux, 4 cks.
White Lead—Antwerp, 10 cks.
Wood Pulp—Quebec, 3,474 pks. C. A. Rice & Co.
Sannesund, 4,316 bls. Kellner, Partington & Co.
Rotterdam, 54
Zinc Oxide—New York, 50 brls.
Antwerp, 80
Rotterdam, 50 cks.

MANCHESTER.

Week ending October 12th.

Acetic Acid—Rotterdam, 30 bsks.
Albumen—Hamburg, 5 cks.
Antimony Salt—Rotterdam, 5 cs.
Barium Chloride—Rotterdam, 10 cks.
Chemicals (otherwise undes.)—Rotterdam, 1 ck.
Coal Products (otherwise undes.)—Rotterdam, 2 cks.
Colours—Antwerp, 7 brls.
Rotterdam, 27 11 cks. 3 cs.
18 bxs.
Copperas—Hamburg, 30 cks.
Dyestuffs—Alizarine, Rotterdam, 32 cks.
Logwood, Progresso, 440 t.
Farina—Hamburg, 798 bgs.
Rotterdam, 500
Glue—Hamburg, 1 cs. 20 bgs. 4 cks 20 bsks.
Rotterdam, 180
Iron Sulphate—Hamburg, 1 ck.
Limestone—Antwerp, 4 crts.
Paint—Montreal, 3 cs. G. J. Morris
Pitch—Rotterdam, 54 cks.

Potassium Sulphate—
Rotterdam, 101 cks.
Starch—
Rotterdam, 200 cs. 10 kgs. 80 bxs.
Hamburg, 128 20 cks.
Ghent, 20 J. T. Fletcher & Co.

Sulphuric Acid—
Rotterdam, 10 cks.

Tallow—
Hamburg, 65 tcs.

Tartar Emetic—
Hamburg, 18 cks.

Tartaric Acid—
Rotterdam, 11 cks.

Tin Perchloride—
Antwerp, 12 cks.

Waste Salt—
Hamburg, qty.

Wood Pulp—
Christiania, 180 bls. W. H. Ingram
Drammen, 515 507½ bds. W. H. Ingram

Kotka, 2,745 E. Werthain & Co.
Athens, 3,932
Uleaborg, 520 cubic fthms.
(Thro' Barrow) Kellner-Partington
Paper Pulp Co., Ltd.

Gotthenburg, 3,457 bls.

Zinc Oxide—
Rotterdam, 75 brls.
Antwerp, 10

HULL.

Week ending October 12th.

Acetic Acid—
Rotterdam, 3 cks. Hutchinson & Son

Acid—
Leghorn, 21 cks. Wilson,
Sons, & Co., Ltd.

Bari, 5
Rotterdam, 25 balloons W. & C. L.
Ringrose

Arsenic—
Hamburg, 8 brls. Wilson,
Sons, & Co., Ltd.

Asbestos—
Genoa, 22 pks.

Barytes—
Amsterdam, 25 cks. J. Good & Sons
Antwerp, 163 200 bgs. Bailey
& Leatham

Rotterdam, 76 Hutchinson & Son

Camphor—
Bremen, 22

Hamburg, 1 brl. Wilson,
Sons, & Co., Ltd.

Castor Oil—
Leghorn, 6 cs. Wilson,
Sons, & Co., Ltd.

Chemicals (otherwise undescribed)
Stettin, 8 cks. Wilson,
Sons, & Co., Ltd.

New York, 50 pks.
Dunkirk, 103 bgs. "

Hamburg, 24 pks. 18 cks. "

Antwerp, 5 brls. "

Bremen, 1 cs. Veltmann & Co.

Cod Oil—
Hamburg, 20 cks. Wilson,
Sons, & Co., Ltd.

Bergen, 181 brls. "

Christiania, 5 "

Colours—
Danzig, 10 cks. Wilson,
Sons, & Co., Ltd.

" 12
Amsterdam, 3 W. & C. L. Ringrose
Rotterdam, 4 280 pks. "

Hamburg, 8 cs. G. Malcolm
& Son

Antwerp, 29 brls. 6 Wilson,
Sons, & Co., Ltd.

Riga, 220 cs. "

Dextrine—
Stettin, 100 bgs. Wilson,
Sons, & Co., Ltd.

Dried Blood—
Libau, 7 cs.

Dyestuffs—
Alizarine
Rotterdam, 19 cks. W. & C. L.
Ringrose

Argols
Bordeaux, 19 bgs. Rawson &
Robinson

Madder 67
Rotterdam, 2 cks. Hutchinson
& Son

Sumac
Palermo, 2,940 bgs. Wilson,
Sons, & Co., Ltd.

Valonia 400
Antwerp, 1 bg. Wilson,
Sons, & Co., Ltd.

Farina—
Ghent, 204 cs. Wilson,
Sons, & Co., Ltd.

Stettin, 248 bgs. White & Son

Hamburg, 50

Glucose—
Rotterdam, 30 bgs. Hutchinson
& Son

New York, 150 brls.

Glue—
Dunkirk, 10 cks. Wilson,
Sons, & Co., Ltd.

Hamburg, 20 bgs.

Kaolin—
Rotterdam, 245 bgs. Hutchinson
& Son

Lime—
New York, 2,470 bgs. Wilson,
Sons, & Co., Ltd.

Manure—
Bona, 800 t.

Phosphate—
Rotterdam, 9 cks. Hutchinson
& Son

Phosphorus—
Hamburg, 1 cs. T. F. Bell & Co.
Rotterdam, 1 bx. Hutchinson
& Son

New York, 5 cs. Wilson,
Sons, & Co., Ltd.

Pitch—
Hamburg, 30 brls.
Amsterdam, 69 cks. J. Good & Sons
Rotterdam, 1 W & C. L. Ringrose

Potash—
Stettin, 9 cks. Wilson,
Sons, & Co., Ltd.

Dunkirk, 65 pks. 31 2 dms. "

Rotterdam, 50 brls. Hutchinson
& Son

Pumice Stone—
Leghorn, 35 cs. Wilson,
Sons, & Co., Ltd.

Messina, 65 pks. "

Saltpetre—
Hamburg, 75 pks. Bailey &
Leatham

" 10 cks. Wilson,
Sons, & Co., Ltd.

" 74 bgs. "

Soap—
Marseilles, 10 pks. 15 cs. Wilson,
Sons, & Co., Ltd.

New York, 544
Bari, 211 cs. Wilson,
Sons, & Co., Ltd.

Hamburg, 25

Starch—
Rotterdam, 48 cs. Hutchinson
& Son

Amsterdam, 10 bxs. W. & C. L.
Ringrose

Antwerp, 20 cs. Wilson,
Sons, & Co., Ltd.

Bremen, 2,395 Veltmann & Co.

Stearine—
Antwerp, 131 bgs. Wilson,
Sons, & Co., Ltd.

Sulphur—
Catania, 551 pks. Wilson,
Sons, & Co., Ltd.

" 587

Tar—
St. Petersburg, 11 cks. Wilson,
Sons, & Co., Ltd.

Tartar—
Bordeaux, 5 cks. Rawson &
Robinson

Tartaric Acid—
Rotterdam, 1 ck. W. & C. L.
Ringrose

" 1 Hutchinson & Son

Treacle—
New York, 775 brls. Wilson,
Sons, & Co., Ltd.

Turpentine—
Bordeaux, 30 cks. Rawson &
Robinson

Ultramarine—
Amsterdam, 3 cks. J. Good & Sons
Bremen, 4 W. H. Walton
4 Todd & Son

Yarnish—
New York, 1 brl.

Waste Salt—
Hamburg, qty.

White Lead—
Antwerp, 4 cks. Bailey &
Leatham

Amsterdam, 27 J. Good & Sons
Rotterdam, 14 Hutchinson & Son

Wood Pulp—
Hamburg, 200 bls. Bailey &
Leatham

" 200 Woodhouse & Co.
Abo, 21 Furley & Co.

" 144

Bremen, 10

Zinc White—
Antwerp, 25 cks. Bailey &
Leatham

GLASGOW.

Week ending October 17th.

Acetic Acid—
Rotterdam, 17 cks. J. Rankine
& Son

Acetone—
Hamburg, 27 cks.

Albumen—
Hamburg, 5 cks.

Alkali—
Rotterdam, 20 dms. J. Rankine
& Son

Alum—
Hamburg, 65 cks.

Aluminium—
Rotterdam, 2 cs. J. Rankine
& Son

Aniline—
Rotterdam, 11 cks. 13 cs. J.
Rankine & Son

Hamburg, 15

Arachide Oil—
Rotterdam, 2 cks. J. Rankine
& Son

Asbestos—
Quebec, 500 bgs.

Barium Sulphate—
Antwerp, 408 bgs.

Barytes—
Rotterdam, 55 cks. J. Rankine
& Son

" 32 pks.

Castor Oil—
Calcutta, 750 cs.
Antwerp, 6 cks.

Chemicals (otherwise undescribed)
Rotterdam, 12 cks. 3 cs. J. Rankine
& Son

Citric Acid—
Messina, 4 cks.

Cod Oil—
Hamburg, 5 cks.

Colours—
Rotterdam, 53 pks.
Hamburg, 16 cks. 24 bgs.

Cottonseed Oil—
New York, 50 brls.
Baltimore, 100
Rotterdam, 10 J. Rankine
& Son

Dyestuffs—
Alizarine
Rotterdam, 51 cks. 1 cs. J.
Rankine & Son

" 62 pks.

Argols
Bordeaux, 49 cks. 26 bgs.

Cutch
Calcutta, 1,300 cs.

Extracts
Nantes, 225 cks.

Rouen, 20

Antwerp, 1

New York, 10 brls.

Baltimore, 135

Sumac
Palermo, 2,200 bgs. 250 bls.

Turmeric
Calcutta, 519 bgs.

Dyestuffs (otherwise undescribed)
Baltimore, 5 bgs.

Farina—
Hamburg, 100 bgs.

Glucose—
New York, 1,249 brls.

Glue—
Rouen, 11 cks.
New York, 87 brls.

Infusorial Earth—
Hamburg, 21 bgs.

Manganese Chlorate—
Rotterdam, 6 cks. J. I.

Minium—
Rotterdam, 2 cks. J. I.

Ochre—
Rouen, 36 cks.

Painters' Colours—
Antwerp, 5 cs.

Paraffin Wax—
Baltimore, 300 brls.

Potassium Bichromate—
Rotterdam, 13 cks. J. I.

Rosin—
New York, 1,623 brls.

Saltpetre—
Calcutta, 308 bgs.
Hamburg, 50 cks.

Starch—
Rotterdam, 32 cs. J. Rankine

Stearine—
Rotterdam, 1 cs. J. Rankine

Sulphur—
Catania, 1,622 bgs. 49 brls.

Tallow—
New York, 25 tcs.

Tar—
New York, 540 brls.

Tartar—
Bordeaux, 12 cks.

Tartaric Acid—
Messina, 10 cks.

Treacle—
Philadelphia, 750 brls. Wal

" 500

Ultramarine—
Rotterdam, 1 ck. J. I.

Yarnish—
New York, 32 cs.

Waste Salt—
Hamburg, 1,234 bgs.

White Lead—
Rotterdam, 12 cks. J. I.

Hamburg, 4

Rotterdam, 87

Wood Pulp—
Drontheim, 316 bls.
Christiania, 2,443

Zinc Oxide—
Hamburg, 50 cks.

Zinc White—
Rotterdam, 50 cks. J. I.

Hamburg, 2

TYNE.

Week ending October 20th

Alum Earth—
Hamburg, 12 cks. Tyne S.

Arsenic—
Huelva, 30 brls.

Barium Chloride—
Hamburg, 197 bgs. Tyne S.

Castor Oil—
Antwerp, 35 brls. Tyne S.

Glue—
Rotterdam, 1 ck. Tyne S.

Hamburg, 20 bgs.

Kieselguhr—
Bergen, 206 bgs.

Limestone—
Antwerp, 1 cs. Tyne S.

Saltpetre—
Hamburg, 2 cks. Tyne S.

Soap—
Rotterdam, 8 cs. Tyne S.

Starch—
Rotterdam, 50 cs. Tyne S.

lip— 80 bls.
de— 10 bls. Tyne S. S. Co.

GOOLE.

ending October 9th.

3 cks.
Dyes— 26 pkgs.
11 cks.

Bog Ore—

Delfzijl, 71 t.

Dyestuffs—

Alizarine, 68 bls.

Rouen, 50 cks.

Logwood, 416 t.

Belize, 403

Jamaica, 14 cks.

Madder, 14 cks.

Dyestuffs (otherwise undescribed)

Rotterdam, 67 cks. 12 cs.

Boulogne, 1 2 30 pkgs.

Glucose—

Hamburg, 14 cks.

Dunkirk, 100 bgs.

Potash—

Hamburg, 10 cks.

Dunkirk, 36 97 dms.

Pyrites—

Seville, 1,088 t.

Saltpetre—

Hamburg, 11 cks.

Rotterdam, 5 105 bgs.

Waste Salt—

Hamburg, 1,109 cks. 1,377 bgs.

GRIMSBY.

Week ending October 12th

Caoutchouc—

Hamburg, 15 cs. 1 pkge.

Chemicals (otherwise undescribed)

Hamburg, 2 bgs. 17 cks. 26 cs. 5 pkgs.

Antwerp, 5 9

Dyestuffs—

Dieppe, 15 cks.

Dyes—

Hamburg, 2 cks.

Antwerp, 26 pkgs.

Rotterdam, 4 cs.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.**LONDON.**

ending October 16th.

11 cks. £27

10 c. £5

5 t. 11 £44

am Carbonate— 3 t. 11 c. £150

35 cs. 61

am Chloride— 1 t. £37

3 cks. 23

10 68

4 27

5 c. 43

am Sulphate— 3 cs. £19

25 t. 238

50 485

100 906

38 360

10 105

us Ammonia— 50 cyldrs. £274

13 t. £208

10 c. 10

1 t. 10 c. £34

8 20

3 61

Soda— 7 c. £10

20 t. 189

15 23

1 3 29

10 1 174

3 14 81

Is (otherwise under.)— 6 cks. 4 cs. £25

9 t. 468

1 23 78

13 kgs. 115

7 1 brl. 4 75

19 c. 36

1 12

9 drs. 44 47

6 37

1 t. 3 50

of Lime— 19 c. £25

5 kgs. £30

40 216

1 ck. 14

25 5 c. 191

6 t. 15 19

3 5 92

10 65

1 5 172

duets— 8 cks. £115

6 cks. £50

475 cks. £2,377

49 cks. £106

50 50 runs. 237

3 cs. £11

28 drs. 22

Sydney, 5 cks. 14

Rotterdam, 76 249

New York, 20 116

Dusseldorf, 40 280

Naphthalene

Hamburg, 142 t. £315

Trepport, 49 cks. 46

Pitch

Alexandria, 350 bls. £117

Antwerp, 1,251 t. 2,242

New York, 300 151

Brest, 460 1,000

Sables d'Olonne, 750 1,390

La Rochelle, 528 1,003

Dordt, 150 263

Pitch and Tar

Newcastle, 20 bls. £23

Tar

Algoa Bay, 658 drs. £45

Natal, 350 41

Copper Sulphate—

Wellington, 1 t. £7

Constantinople, 1 17

Rio de Janeiro, 1 14 c. 29

Copperas—

Melbourne, 5 t. £13

Cream of Tartar—

Adelaide, 3 t. 15 c. £291

Mossel Bay, 3 cs. 16

Melbourne, 1 76

Auckland, 20 kgs. 73

Disinfectants—

Cape Town, 1 t. 6 c. £30

Calcutta, 6 cs. 10 drs. 41

Negapatam, 8 pkts. 26

Algoa Bay, 3 17

Wellington, 249 137

Sydney, 7 18 10 cks. 104

Boca, 5 16

Guano—

Landerneau, 260 t. £2,600

Hydrofluoric Acid—

E. London, 6 cs. £30

Manure—

Algoa Bay, 8 t. 19 c. £300

Santos, 101 15 210

Jersey, 246 1,000

Rouen, 30 100

Morlaix, 68 680

Berbice, 20 200

Lisbon, 10 36

Natal, 70 301

Phosphoric Acid—

Trinidad, 12 cks. £85

Phosphorus—

Sta. Cruz de

Teneriffe, 3 cs. £33

Adelaide, 10 9 c. 193

Melbourne, 13 123

E. London, 3 29

Potashes—

Wellington, 6 c. £7

Melbourne, 1 t. 131

Shanghai, 5 10

Potassium Cyanide—

Singapore, 5 cs. £46

Melbourne, 10 76

Salicylic Acid—

Melbourne, 5 c. £49

Salt Cake—

Ghent, 145 t. 11 c. £110

Saltpetre—

Cape Town, 1 t. £23

Melbourne, 4 93

Algoa Bay, 1 7 c. 33

Wellington, 10 12

Sheep Dip—

B. Ayres, 7 t. 9 c. £285

E. London, 2 5 90

Algoa Bay, 1,000 drs. 125

Wellington, 300 cs. 150 918

Lyttelton, 150 93

Cape Town, 6 1 c. 200

Soda Crystals—

Melbourne, 9 t. 8 c. £22

Sodium Acetate—

Melbourne, 1 t. £14

Sodium Bicarbonate—

Algoa Bay, 9 t. 2 c. £58

Auckland, 8 56

Sodium Carbonate—

E. London, 1 t. £15

Algoa Bay, 1 11 c. 34

Sodium Frusiate—

Antwerp, 1 t. 1 c. £62

Sodium Sulphate—

Ghent, 250 t. £325

Sodium and Potassium

Tartrate—

Adelaide, 10 c. £30

Spent Oxide—

Dordt, 99½ t. £100

Sulphur—

Algoa Bay, 9 t. 10 c. £83

Newport News, 1 2 58

Sulphuric Acid—

Delagoa Bay, 25 cs. £19

Colombo, 6 12 drs. 24

Sulphuric Anhydride—

Cologne, 30 t. £300

Superphosphate—

Canary, 10 t. £40

Tartaric Acid—

Sydney, 2 t. 1 c. £219

Calcutta, 2 13

Auckland, 6 kgs. 31

Melbourne, 3 10 370

LIVERPOOL.

Week ending October 16th.

Albumen—

New York, 2 t. 10 c. £58

Boston, 3 17 2 q. 118

Alum—

Boston, 59 t. 8 c. 2 q. £329

Janina, 17 5

M. Video, 17 3 7

Beyrout, 5 25

Syra, 2 17 1 14

Galatz, 10 19 49

Ibrail, 3 14 16

Tripoli, 1 14 3 9

Gibraltar, 1 8 2 6

B. Ayres, 4 5 3 20

Rabat, 3 14 1 17

Lisbon, 10 13 3 48

Rio de Janeiro, 1 3 2 6

Montreal, 12 3 66

Sydney, 1 5

Ibrail, 3 15

Alumina Sulphate—

Montreal, 1 t. 10 c. £8

Boston, 1 2 q. 30

Aluminous Cake—

Montreal, 25 t. 7 c. 3 q. £76

Ammonia (Liquid)—

Las Palmas, 13 c. £90

Ammonium Carbonate—

St. Petersburg, 2 t. £68

Varna, 6 c. 7

Stettin, 16 26

Danzig, 12 20

Konigsberg, 12 2 q. 20

Bremen, 11 1 20

Corunna, 4 7

Ammonium Chloride—

Genoa, 5 c. £10

Norfolk, 2 t. 8 3 q. 60

St. Petersburg, 1 13 3 40

Philadelphia, 27 13 1 772

Trieste, 2 9 91

Ammonium Sulphate—

Pimental, 1 c. 3 q. £6

Tarragona, 20 t. 7 3 185

Yokohama, 10 6 71

Venice, 8 6 1 7

Philadelphia, 5 15 50

Demerara, 40 15 3 368

St. Nazaire, 9 19 1 100

Las Palmas, 25 12 340

Genoa, 80 809

Newport News, 176 3 1,788

New York, 50 2 514

San Francisco, 50 5 500

Rouen, 5 2 2 45

Valencia, 50 3 1 504

Arsenic—

Montreal, 16 t. 14 c. 3 q. £251

Bleaching Powder—

Baltimore, 61 cks.

Boston, 45

Havana, 20 bls.

New York, 135

Philadelphia, 104

Rio de Janeiro, 14

San Sebastian, 22

Boracic Acid—

Yokohama, 5 t. 9 c. 3 q. £155

Rotterdam, 10 15

B. Ayres, 10 28

Bremen, 1 t. 11 47

Danzig, 1 5 37

Havre, 1 2 2 35

New York, 5 8

Borax—

Yokohama, 3 t. 8 c. 3 q. £64

B. Ayres, 1 20

Constantinople, 1 1 3 22

Ghent, 20 1 2 402

Antwerp, 13 2 261

Santander, 5 100

Stettin, 1 15 35

Hamburg, 2 40

Sydney, 1 5 3 6

Algoa Bay, 1 21

Rotterdam, 10 18 2 223

Kon

Caustic Potash—

East St. Louis,	3 t.	11 c.	£90
San Francisco,	3	11	96

Caustic Soda—

Bahia,	3 dms.		
Baltimore,	452		
Bilbao,	100		
Carupano,	12		
Ibrail,	35		
New York,	150		
Odessa,	155		
Oporto,	15		
Philadelphia,	200		
Rio Grande do Sul,	50		
Rouen,	17		
St. Petersburg,	40		
Santo Domingo,	6		
Tarragona,	30	50 cks.	

Chemicals (otherwise undescribed)

New York,	9 t.	16 c.	1 q.	£322
Rotterdam,	14			25
Hamburg,	12			22
Palermo,	11			6
Naples,	1	10		55
Genoa,	3	9		235
Boston,	14	16		90
St. Petersburg,	5	9		198
Calcutta,	5	5		199
Copenhagen,	18			33
Philadelphia,	13	8		442

China Clay—

Barcelona,	5 t.	3 c.		
Bombay,	130			
Boston,	57			
Philadelphia,	121 cks.			

Chloride of Lime—

Valparaiso,	4 c.	3 q.	£3
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Chromic Acid—

Hamburg,	10 c.	£32
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Coal Products—**Aniline Colours**

New York,	36 cks.		
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Aniline Salts

Lisbon,	2 cks.		
Montreal,	20 cks.		

Cresote Salts

Bordeaux,	15 brls.		
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Pitch

Rotterdam,	50 t.		
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Tar

Guayaquil,	50 dms.		
Honolulu,	50 brls.		
Piræus,	4		
St. John's, N'd'd.,	40		

Copper Sulphate—

Halifax,	1 t.	5 c.	£19
Ibrail,	1		17
Odessa,	3		45
Bombay,	6		101
Santos,	4	18	1 q. 95
Dunedin,	1		16
Melbourne,	5		88
Charlottetown,		9	2 9
Rouen,	10	4	2 200
Antwerp,	1	19	3 35
Libau,	1		16
La Plata,	1	10	28
San Francisco,	35		549
Naples,	4	17	3 73

Copperas—

Santos,	6 t.	17 c.	2 q.	£15
Alexandretta,	2	9		8

Disinfectants—

Bombay,	2 t.	14 c.	£25
Piræus,	3		6

Dried Blood—

Lisbon,	2 t.	1 c.	3 q.	£12
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Glucose—

Malta,	30 bgs.		
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Glue—

Philadelphia,	24 bgs.		
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Gypsum—

New York,	36 t.	8 c.	£115
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Iron Oxide—

Genoa,	5 t.	9 c.	£37
Odessa,	1	10	11

Lead Acetate—

Montreal,	10 c.	£13
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Lime—

Bakana,	2 t.	7 c.	60
Demerara,	89		248

Limestone—

New Glasgow,	5 t.		
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Magnesia—

Lisbon,	1 cs.		
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Magnesium Sulphate—

Portland, Or.,	7 brls.		
Rio de Janeiro,	100 kgs.		

Manganese Peroxide—

Oporto,	5 c.	£3
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Manure—

Venice,	98 t.	10 c.	2 q.	£296
Genoa,	142	5		602
Valencia,	101	1	3	335
St. Malo,	347	17		1,510

Ochre—

St. John's, N'd'd.,	20 cks.	14 kgs.		
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Oxalic Acid—

Montreal,	1 t.	14 c.	3 q.	£53
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Paint—

Alexandria,	28 kgs.		
Algoa Bay,	2 cks.		
Antwerp, 4 hmsrs.			
Cabinda,	10	36	10 dms.
Coquimbo,	10 cs.		
Ferrol,	1	2	hrls.
Hong Kong,	50		
Lisbon,	42		
Maranham,	10		60 dms.
M. Video,	8		
New York,	4		
Ponce,	1		
Pt. Elizabeth,	1		
St. John's, N'd'd.,	8	78	
Trieste,	10		
Valparaiso,	28 cs.	15	126
Wellington, N G.,	514 pks.		

Painters' Colours—

Bahia,	202 kgs.		
Boston,	1		
Calcutta,	200		
Cardenas,	40		
Demerara,	1 cs.	15	3 brls.
Guayaquil,	5 cks.		
Havana,	1 tce.		
Janina,	2		
La Libertad,	2	10	
Lisbon,	6		
Manaos,	1 cs.		
New York,	1 bx.	2	
Rotterdam,	11		
St. John's, N'd'd.,	1 dm.	387	4
Valleyfield,	1		
Zante,	2 cs.	4 cks.	1 3

Paraffin Wax—

Patras,	20 cs.		
Rio de Janeiro,	4		

Phosphorus—

Phosphorus—		
Vera Cruz,	5 cs.	£55
Tampico,	1	7
Aguascalientes,	10	110
Shanghai,	23	230
Hiogo,	20	10 C. 325

Potashes—

B. Ayres,	1 t.	2 c.	£22
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Potassium Bichromate—

Randers,	1 t.	10 c.	£64
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Potassium Carbonate—

East St. Louis,	8 c.	£11
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Potassium Chlorate—

Rotterdam,	2	6 c.	117
Stockholm,	5		240
Stettin,	1		40
Boston,	2	10	116
Copenhagen,	5		236
Konigsberg,		12	24
Antwerp,	1		46
Catania,		10	20
Genoa,	1		36
Gothenburg,	6	8	285

Potassium Prussiate—

Oporto,	1 c.	3 q.	£7
---------	------	------	----

Salt—

Adelaide,	95 t.		
Algoa Bay,	8		
Antwerp,	412		
Baltimore,	1,700		
Barbadoes,	168		
Boston,	570		
B. Ayres,	35		
Calcutta,	6,301		
Copenhagen,	274		
Corinto,	20		
Demerara,	148	17 c.	
Elsinore,	226		
Ghent,	204		
Gd. Bassam,	59		
Gd. Lahou,	25		
Honolulu,	20		
Iceland,	150		
Matadi,	5		
Monrovia,	14		
Pt. Royal, S.C.,	606		
Rotterdam,	260		
Savannah,	1,552		
Sierra Leone,	200		
Sydney, N.S.W.,	50		
Valparaiso,	246		

Salt Cake—

Baltimore,	165 t.	19 c.	£215
Philadelphia,	100		150
Boston.	20	8	20. 36

Saltpetre—

Manaos,	19 c.	3 q.	£23
Natal, Brazil,	13	3	17
Malta,	5		6
Baltimore,	4		9
B. Ayres,	1 t.		12
Pt. Natal,	10		12

Sheep Dip—

Sheep Dip—			
Algoa Bay,	3 t.	15 c.	£144
Cape Town,	6	10	250
Valparaiso,	3	15	140
B. Ayres,	70	3	2 q. 1 748

Soap—

Algoa Bay,	724 bxs.		
Baltimore,	32		
Bombay,	895	1 cs.	50 bds.
Calcutta,	250	103	
C. C. Castle,	230		
Casa Blanca,	10		
Colon,	550		
Constantinople,	45		
Curacao,	50		
Corfu,	6		
Delagoa Bay,	202		
Demerara,	2,860		
E. London,	601		
Gibraltar,	200	20	
Gd. Bassam,	200		
Guayaquil,	100		
Half Jack,	50		
Hamburg,	1,000		
Hong Kong,	607		
Honolulu,	300		
Kingston, Ja.,	2,900	2	
Lagos,	105		
Landana,	20		
Las Palmas,	1,340		
Malta,	30		
Manaos,	200		
New York,	50		
Old Calabar,	700		
Para,	1,000		
Patras,	52		
Philadelphia,	50	1,000	
Piræus,	1		
Pt. Elizabeth,	1,233		
Pt. Natal,	221		
Quebec,	2		
Rangoon,	5		
Rotterdam,	135		
S. John's, N'd'd.,	620		
Shanghai,	1,561		
Sierra Leone,	247	1	
Singapore,	137		
Smyrna,	10		
Stettin,	14		
Valparaiso,	12	3	2 cks.

Soda Alkali—

Barcelona,	70 brls.		
Genoa,	35		
Lisbon,	40		
Oporto,	36		
Santo Domingo,	35		
Smyrna,	50		

Soda Ash—

Adelaide,	104 brls.		
Antwerp,	67 bgs.		
Baltimore,	4,387	29 cks.	
Barcelona,	20		
Boston,	1,380	21	180 tcs.
B. Ayres,	325		
Calcutta,	100 kgs.		
Montreal,	8,410		57
New York,	2,076	16	269
Norrköping,	25		
Para,	10		
Philadelphia,	1,800		336
Rangoon,	50 kgs.		
San Francisco,	152		
Talcahuano,	40		
Valparaiso,	150		
Venice,	15		

Soda Crystals—

Boston,	84 cks.	100 bgs.	
Calcutta,	33 kgs.		
Halifax,	90		
Leghorn,		40 brls.	
Montreal,	104	310	
New York,	420		112
Philadelphia,	84		280
Pt. Natal,	20		

Sodium Acetate—

Lisbon,	1 cs.		
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Sodium Bicarbonate—

Amsterdam,	50 kgs.	2 cks.	
Antwerp,	40		
Baltimore,	470	320	
B. Ayres,	125	25	

Calcutta,

Callao,	1,020		
Halifax,	125		
Hamburg,	20		
Kobe,	2,000		
Libau,	180		
Montreal,	1,010		
Naples,	10		
Newport News,	250		
New York,	250	107 brls.	115
Odessa,	650		
Palermo,	20		
Paris,	205	50 bgs.	
Philadelphia,	600		118
Quebec,	200		
St. Petersburg,	20		
Seville,	50		
Smyrna,	20		
Teneriffe,			
Varna,	14		
Vladivostok,	14		

HULL.

Week ending October 12th.

31 cks.	
5 cks.	
ium Sulphate—	
k, 43 bgs.	
503	
0, 458	
100	
dam, 9 dms.	
ing Powder—	
15 cks.	
32	
Soda—	
268 dms.	
544 10 cks.	
als (otherwise undescribed)	
dam, 22 cks. 12 kgs.	
P, 3 25 cs. 178 pks.	
ania, 15 16	
1, 189 sbs.	
agen, 7 1 20	
2	
burg, 5	
rg, 9 28 14	
berg, 6 10	
1	
ork, 15	
lam, 24 70 6	
ersburg, 2 46	
olm, 1 1	
2	
eed Oil—	
dam, 55 c.	
P, 200	
ania, 17	
ansand, 35	
agen, 53	
burg, 60	
rg, 41	
dam, 1,542	
837	
olm, 399	
70	
102	
ffs (otherwise undescribed)	
P, 3 cks.	
4	
ania, 30 bgs.	
burg, 1 cs.	
rg, 1	
ork, 15 dms. 27	
60 5	
7 bgs.	
d Oil—	
0, 33 c.	
ania, 31	
ansand, 283	
88	
eim, 227	
rg, 190	
dam, 229	
ger, 89	
e—	
rk, 100 t.	
rs' Colours—	
rdam, 4 cks. 2 cs. 22 pks.	
rp, 17 47	
6	
n, 34 dms. 2 1	
ania, 11	
ansand, 3 64	
agen, 16	
heim, 7 2 21 dms. 92 pks.	
4	
burg, 33	
rg, 20	
gen, 15 2 dms. 3	
dam, 48	
ersburg, 78	
olm, 16	
horus—	
dam, 40 cs.	
rp, 229 t.	
rk, 100	
34 cks.	
ne—	
13 dms.	

Slag—

Bremen, 80 bgs.

Soap—Christiania, 1 cs.
Hamburg, 4
Stockholm, 1**Tallow—**Amsterdam, 8 cks.
Bremen, 1
Gothenburg, 15**Tar—**Bremen, 2 cks.
Christiania, 2
Copenhagen, 10
Riga, 15**Varnish—**Amsterdam, 1 cs. 1 dm.
Christiania, 1 ck.
Danzig, 2 2
Gothenburg, 2 2
Hamburg, 1 1
Rotterdam, 1 1**Whiting—**

Trieste, 35 cks.

GLASGOW.

Week ending October 17th.

Ammonium Sulphate—Marseilles, 25 t. 17 3/4 c.
Rouen, 50 13 3/4
Valencia, 111 17
Hamburg, 50 14
Nickerie, 20 14
Canada, 25 7 3/4
France, 5 2**Asbestos—**

Shanghai, £29

Bleaching Powder—Baltimore, 23 t. 5 3/4 c.
Canada, 23 8**Boiler Composition—**

Calcutta, £32

Boracic Acid—

Havre, £782

Borax—

Sydney, £56

Castor Oil—

Sydney, 2 t.

Coal Products—

Aniline Colours

Creosote

France, £520

Creosote Oil

U.S.A., £91

Pitch

France, £926

Tar

New York, 37

U.S.A.,

Antwerp, 78

Canada,

505

Montreal,

50

Boston,

£50

U.S.A.,

115

Montreal,

167

Dyestuffs—

Extracts

Logwood

Canada, £43

Gelatine—

Canada, £290

Glucose—

Cape Town, 15 t. 10 c.

Glue—

Sydney, £25

Linseed Oil—Algoa Bay, 1 t. 6 3/4 c.
Calcutta, 1 13 3/4
Canada, 6 15 3/4
Cape Town, 2 16 3/4
Sydney, 8 6 3/4**Litharge—**

Johannesburg, £21

Magnesia—

Canada, £21

Magnesium Sulphate—

Sydney, £76

Manganese Oxide—

New York, £180

Manure—

Nickerie, 16 3/4 c.

Paint—Newcastle, N.S.W., £60
Pt. Elizabeth, 23
Sydney, 536
Valparaiso, 60
Manzanillas, 52
Singapore, 50
Fremantle, 143**Painters' Colours—**Cape Town, 19 c.
Nickerie, 7
Rotterdam, 168
Calcutta, 1 t.
Bergen, 1 t.
Rangoon, 47**Paraffin Wax—**Barcelona, £55
Paris, 105
Valencia, 221**Phosphate—**

Nickerie, 15 t.

Plumbago—

Canada, £24

Potassium Bicarbonate—

Bombay, 1 3/4 c.

Potassium Bichromate—

Rouen, 11 t. 7 3/4 c. £200

Potassium Prussiate—Lyons, 5 t. 6 1/2 c.
Yokohama, 10**Sheep Dip—**

B. Ayres, £73

Soap—

Valparaiso, 1 t. 5 3/4 c.

Soda Crystals—

Calcutta, 15 3/4 c.

Sodium Bicarbonate—

Rouen, 14 t. 18 c.

Sulphur—

Nickerie, 1 t. 14 c.

Sulphuric Acid—

Rangoon, 1 t. £332

Tallow—

Rotterdam, 18 c.

Treacle—E. London, 2 t. 10 c.
Christiania, 23 18 1/2
Rotterdam, 1 9
Bergen, 2 3**Yarnish—**

Sydney, £35

White Lead—Cape Town, £45
B. Ayres, 90**TYNE.**

Week ending October 12th.

Alkali—

Hamburg, 2 t. 13 c.

Antwerp,

5 4

Savona,

101 15

Drammen,

25 4

Antimony—

Rotterdam, 3 t. 10 c.

Barcelona,

1 4

St. Petersburg,

10

Asbestos—

Bergen, 11 lbs.

Barium—

Antwerp, 5 t. 1 c.

Barytes—

St. Petersburg, 21 t. 2 c.

Bleaching Powder—

Antwerp, 20 t. 9 c.

St. Petersburg,

239 17

Copenhagen,

4 19

Rotterdam,

18 12

Riga,

44 17

Moss,

15 4

Drontheim,

10 1

Hamburg,

60 8

Christiania,

16 13

Carbolic Acid—

Rotterdam, 11 t. 7 c.

Caustic Soda—

Antwerp, 7 t.

Lisbon,

4 18 c.

Barcelona,

75 13

Ghent,

5 2

St. Petersburg,

24 19

Stockholm,

11 17

Piraeus,

8 5

Hamburg,

12 3

Copenhagen, 5 10
Rotterdam, 5 16
Genoa, 35 13
Riga, 5
Drammen, 5 16**Litharge—**Hamburg, 11 t. 2 c.
Lisbon, 2 3
Stockholm, 5 3**Magnesia—**Lisbon, 15 c.
Barcelona, 4 t.
St. Petersburg, 15**Naphthaline—**

Reval, 20 t. 9 c.

Oxalic Acid—

Odense, 2 t. 2 c.

Paint—Hamburg, 4 c.
Stockholm, 2
Antwerp, 10**Soda—**

Lisbon, 10 t. 5 c.

Svensborg,

43 19

Stockholm,

21 11

Rotterdam,

35 4

Esbjerg,

54 19

Genoa,

13 3

Bergen,

9 7

Drontheim,

9 19

Christiania,

10

Christiansand,

10

Soda Ash—

Hamburg, 6 t. 16 c.

Lisbon,

15 9

Aalborg,

10 12

Sodium Hyposulphite—

San Francisco, 5 t.

Sodium Silicate—

Barcelona, 10 t. 7 c.

Sodium Sulphate—

Moss, 285 t.

Drammen,

50 8 c.

Sulphur—

Drammen, 100 t.

Tallow—

Genoa, 20 t. 5 c.

White Lead—

Lisbon, 8 t.

Stockholm,

7 18 c.

Hamburg,

2

GOOLE.

Week ending October 9th.

Chemicals (otherwise undescribed)

Antwerp, 1 ck.

Boulogne,

2 cs.

Ghent,

3 dms.

Hamburg,

2

Coal Products (otherwise undes.)—

Antwerp, 10 cks.

Boulogne,

72

Ghent,

1

Rotterdam,

3 1 cs. 504 bgs.

Dyestuffs (otherwise undescribed)

Boulogne, 1 cs.

Ghent,

6 cks. 2

Hamburg,

70

Manure—

Hamburg, 279 bgs.

Pitch—

Antwerp, 568 t.

Dunkirk,

363

GRIMSBY.

Week ending October 12th.

Alkali—

Antwerp, 1 pkge.

Dieppe,

1 ck.

Caoutchouc—

Esbjerg, 1 cs.

Chemicals (otherwise undescribed)

Dieppe, 2 cks.

PRICES CURRENT.

WEDNESDAY, OCT. 23

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	8 9/-
" Glacial	"		40/-
Arsenic S.G., 2000	"	0	15 0
Fluoric	per lb.	0	0 3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
" (Cylinder), 30° Tw.	"	0	3 0
Nitric 80° Tw.	per lb.	0	0 1 3/4
Nitrous	"	0	0 1 3/4
Oxalic	nett	0	0 3 3/4
Phosphoric, 1750°	"	0	1 1
Picric	"	0	0 10
Sulphuric (fuming 50 %)	per ton	15	10 0
" (monohydrate)	"	5	10 0
" (Pyrites, 168°)	"	3	0 0
" 150°	"	1	5 0
" (free from arsenic, 145°)	"	1	7 6
Sulphurous (solution) S.G. 1025	"	3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric	"	0	0 11 1/4
Arsenic, white powdered	nett	per ton	15 10 0
Alum (loose lump)	"	4	12 6
Alumina Sulphate (pure)	"	4	12 6
Aluminoferic	"	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	"	0	1 3
" 880=28° B.	per lb.	0	0 3
" =24° B.	"	0	0 2 1/4
" Carbonate	nett	"	0 0 3 3/4
" Muriate	per ton	23	0 0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	& 37/-
" Nitrate	per ton	38	10 0
" Phosphate	per lb.	0	0 6 1/2
" Sulphate (grey) London	per ton	9	2 6
" (grey) Hull	"	9	2 6
Aniline Oil (pure)	per lb.	0	0 5 1/4
Aniline Salt	"	0	0 4 3/4
Antimony	per ton	31	0 0
" (tartar emetic)	per lb.	0	0 7
" (golden sulphide)	"	0	0 10
Barium Chloride	per ton	6	7 6
" Carbonate (native)	"	3	5 0
" Sulphate (native levigated)	"	42/6	to 65/-
Bleaching Powder, 35 %	nett	"	7 0 0
" Liquor, 7 %	"	3	10 0
Bisulphide of Carbon	"	13	5 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	"	15/-	to 30/-

Coal Tar Products and Dyes:—

Alizarine (artificial) 20 %	nett	per lb.	0 0 8
Magenta	"	0	3 9
Anthracene, 30 % A, f.o.b. London	per unit	per cwt.	0 0 11 1/2
Benzol, 90 % nominal	per gallon	0	1 3
" 50/90	"	0	1 2
Carbolic Acid (crystallised 40°)	per lb.	0	0 5 1/2
" (crude 60°)	per gallon	0	1 6 1/2
Creosote (ordinary)	"	0	0 1 1/2
" (filtered for Lucigen light)	"	0	0 2
Crude Naphtha 30 % @ 120° C.	"	0	0 5 1/4
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	"	1	15 0
Solvent Naphtha, 90 % at 160°	per gallon	0	1 2
" Lucigen " and " Wells " Oils	"	0	0 2 1/2
Copper	per ton	45	12 6
" Sulphate	"	16	10 0
" Oxide (copper scales)	"	41	10 0
Glycerine (crude)	"	18	10 0
" (distilled S.G. 1250°)	"	47	10 0
Iodine	nett, per oz.	0	0 9
Iron Sulphate (copperas)	per ton	1	5 0
" Sulphide (antimony slag)	"	2	0 0
Lead (sheet) for cash	"	12	10 0
" Litharge Flake (ex ship)	"	13	15 0
" Acetate (white)	"	22	0 0
" brown	"	15	0 0
" Carbonate (white lead) pure	"	16	0 0
Nitrate	"	19	0 0

Lime, Acetate (brown)	per ton	1	
" (grey)	"	1	
Magnesium (ribbon and wire)	per oz.	1	
Chloride (ex ship)	per ton	1	
Carbonate	per cwt.	1	
Hydrate	per ton	1	
Sulphate (Epsom Salts)	per ton	1	
Manganese, Sulphate	"	1	
Borate	per cwt.	1	
Ore, 70 %	per ton	1	
Methylated Spirit, 61° O.P.	per gallon	0	
Naphtha (Wood), Solvent	"	0	
" Miscible, 60° O.P.	"	0	
Oils:—			
Cotton-seed	per ton	18	
Linseed	"	22	
Petroleum, American	per gallon	0	
Stearine	per ton	24	
Phosphorus (yellow)	per lb.	0	
" (red)	"	0	
Potassium (metal)	per oz.	0	
Bichromate	nett	per lb.	0
Carbonate, 90% (ex ship)	per ton	17	
Chlorate	per lb.	0	
Cyanide, 98%	"	0	
Hydrate (Caustic Potash) 90 %	per ton	24	
" (Caustic Potash) 75/80 %	"	21	
" (Caustic Potash) 70/75 %	"	20	
Nitrate (refined)	per cwt.	1	
Permanganate	per cwt.	1	
Prussiate Yellow	per lb.	0	
Sulphate, 90 % (ex ship)	per ton	9	
Muriate, 80 % (do.)	"	8	
Silver (metal)	per oz.	0	
Nitrate	"	0	
Sodium (metal)	per lb.	0	
Carb. (refined Soda-ash) 48 %	nett	per ton	4
" (Caustic Soda-ash) 48 %	"	"	3
" (Carb. Soda-ash) 48%	"	"	3
" (Alkali) 58 %	"	"	3
" (Soda Crystals)	"	"	3
Acetate (ex-ship)	"	"	14
Arseniate, 45 %	"	"	11
Chlorate	per lb.	0	
Borate (Borax)	net, per ton	19	
Bichromate	per lb.	0	
Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	"	9	
" (74 % Caustic Soda)	"	8	
" (70 % Caustic Soda)	"	7	
" (60 % Caustic Soda)	"	6	
" (60 % Caustic Soda, cream) (f.o.b.)	"	6	
Bicarbonate	"	6	
Hyposulphite	"	5	
Manganate, 30%	"	19	
Nitrate (95 %) ex-ship Liverpool	per cwt.	0	
Nitrite, 98 %	per ton	31	
Phosphate	"	13	
Silicate (glass)	per ton	4	
" (liquid, 100° Tw.)	"	3	
Stannate, 40 %	per cwt.	3	
Sulphate (Salt-cake)	per ton	1	
" (Glauber's Salts)	"	1	
Sulphide	"	8	
Sulphite	"	5	
Strontium Hydrate, 100%	"	8	
Sulphocyanide Ammonium, 95 %	per lb.	0	
Barium, 95 %	"	0	
Potassium	"	0	
Sulphur (Flowers)	per ton	5	
" (Roll Brimstone)	"	5	
Brimstone: Best Quality	"	3	
Superphosphate of Lime (26%	"	2	
Tallow	"	22	
Tin Crystals	per lb.	0	
English Ingots	per ton	69	
Zinc (Spelter)	"	15	
Chloride (solution, 100° Tw.)	"	3	

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Reports, and correspondence on all matters of interest to the chemical and allied industries, home and foreign, are solicited. Contributors should condense their matter as much as possible, and give the side only of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be sent on separate sheets.

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Advertisements intended for insertion in the current week's issue of the *Journal* should be forwarded to the office by **Thursday morning** at the latest.

THE PROSPECTS OF THE CASTNER-KELLNER ALKALI COMPANY.

THE great interest that has been manifested in the floating of the company which is to take over the Castner and Kellner Electrolytic Patents, must excuse us for extending our remarks upon this subject beyond the limits which last week's space allowed us. We propose to take a dispassionate and unbiased survey of the situation from the standpoint of such data as may be available to the general public, and to make an estimate of the extent to which the new process is likely to encroach upon the already slender profits of the older methods.

We might first remark in passing that those who are responsible for the framing of the Castner-Kellner Prospectus, can certainly not be charged with having made it unduly attractive—except, perhaps, to the outside public, who are already in imagination spending their minimum dividends of 17 per cent. The uninitiated enjoy many pleasures of anticipation which are as Dead Sea fruit to those who know, and it is a patent proof that the national spirit of enterprise is not extinct when so small an inducement is met by such a ready response.

We think, however, it is about time that the prospectus figures of the bleach and caustic production of this country underwent some little revision, and we would respectfully suggest to the promoters of future companies, that if they fixed the quantities at 100,000 tons of each per annum, they would probably come nearer the mark than by adhering to the antiquated estimate of five years ago. It is also well to bear clearly in mind that these figures indicate approximately the total make of this country, and include both the home consumption and the export trade; but the Castner-Kellner Alkali Company is only to cater for the home and colonial trade, as the vendors of the Patents expressly exclude Europe and America from the field of its enterprise. This means, roughly speaking, that its proposed combined output of 20,000 tons will have to displace its equivalent from a figure which is much nearer 100,000 tons than 310,000 tons as might appear from the prospectus, and that this displacement has to be effected in a market that is notoriously the most difficult to capture on account of the completeness of the organisation of the present productive agencies. To talk of capturing this market at anything like the prices now ruling will, we think, be out of the question. Before a new 20,000 tons of bleach and caustic can find room, competition will have established a scale of prices that will tax even the prospectus costs of producing the electrolytic articles.

Before speculating as to whether the old or the new processes will have the greater staying power when the day of adversity comes, it will be well for us to form as clear a conception as possible as to what the present Electrolytic Company

has to do in order to produce bleach at £3. per ton and caustic at £4. 5s. per ton, which are the figures given in the prospectus. Our first step will be to eliminate those costs which must necessarily be common to both the Leblanc and the electrolytic processes.

As far as bleach is concerned, in both cases we have to deal with the cost of manufacture when chlorine is given free, plus general expenses and cost of maintenance of the entire chlorine and bleach-producing plant. In other words, we propose to debit both processes with the same charges for lime, slaking, sieving, wheeling in, care of chambers, packing, packages, maintenance of entire plant, management, laboratory, office, rent, rates, and taxes, &c., the total of which may fairly be put down at about £1. 15s. per ton of bleach. (It may be said that the maintenance and general charges of the electrolytic plant will differ from those of the Leblanc plant, but in the unavoidable absence of data we do not think any considerable error should be introduced by considering both as on the same footing.)

Dealing with caustic in the same way, we find that both processes have to boil up the weak liquor from 20% to finished strength, to provide coal and labour for this, and to supply packages. With maintenance and general expenses this will amount to about £1. 5s. per ton. Deducting £1. 15s. from £3. and £1. 5s. from £4. 5s., we have left £1. 5s. per ton of bleach and £3. per ton of caustic to provide salt, labour in the electrolytic department, and the cost (excluding maintenance and general expenses) of the electricity. Bearing in mind that two tons of bleach are produced to one ton of caustic, these figures (£1. 5s. and £3.) become £1. 16s. 8d. per ton of combined product.

Taking salt at 7s. 6d. per ton, and assuming the theoretical production of 7 tons of 77% caustic and 1.65 tons of bleach from one ton of salt, we find the salt item to amount to about 3s. 2d. per ton of combined product. We shall probably not be far wrong in putting down the wages at 6s. per ton, which leaves us £1. 7s. 6d. per ton of combined product for the electricity.

Again assuming theoretical production, we find that 200,000 ampère hours correspond to one ton of combined product. Multiplying this figure by the necessary voltage (4) and dividing by 1,000, we have 800 as the number of effective Board of Trade units which have to be supplied for £1. 7s. 6d. This works out slightly over four-tenths of a penny.

We think that to realise this figure the Castner Kellner Company has its work well cut out. We do not for one moment say that it is impossible, and we will say further that the exceedingly able and practical men whose names are associated with the undertaking give us confidence that the lowest costs hitherto obtained will be surpassed—but still we think that to obtain an effective Board of Trade unit for four-tenths of a penny will tax their ability to the utmost. We shall think the Company have achieved an exploit if this figure has not to be doubled, and he need not be unduly sceptical who would ask what profits remain after it has been multiplied by three.

It will be seen that so far we have not referred to the possible loss of mercury. We have assumed this to be nil, or, at all events, inappreciable, as we see no reasons that would justify our doubting the statements of Mr. Castner. It is perfectly true, as pointed out by Mr. Jno. Hargreaves in a recent letter to the *Liverpool Courier*, that there is great likelihood of mercury being carried off by the escaping hydrogen, but if this had been the case to any serious extent

the evil would surely have manifested itself at Oldbury the same time, apart from questions of sanitation, it must be admitted that any loss of mercury would be a very large financial drawback.

With respect to the bleach, we cannot see that the electrolytic product would enjoy any superiority over that made by the older processes; but in respect to the caustic the new Company would (prices of production being equal) have a decided advantage on account of the greater purity of output. We do not for an instant think that buyers will buy £9. 15s. per ton for it as against £7. 5s. for ordinary caustic, but it is only natural to suppose that it will have the first place on the market at a price.

The new Company has undoubtedly other advantages. The absence of vitriol and saltcake plants, and the fact that there being no waste products, are no small items in its favour, if only it can show the required cost sheets.

It is manifest that our survey of the position would be incomplete if we failed to take note of the means which the Leblanc manufacturers have at their disposal for resisting such an onslaught as is contemplated by the Castner-Kellner Company.

It is a well-known fact that the last year or two have witnessed immense economies effected in the production of bleach and caustic, the credit for which is due, to a great extent, to the healthy rivalry between the different works of the Alkali Company.

The strictest supervision all along the line has resulted in a series of savings, which in the aggregate are of importance. Both the Weldon and the Deacon processes are giving results which but a short time since would have been impossible of realisation. Even to-day we are of opinion that many of the investors in the new Electrolytic Company would feel anxious after a glance at the cost sheets from some of the United Alkali Company's works, and if any one thing is certain, it is that even these high costs are to be reduced. Of course, the man who makes his money by selling bleach or caustic from a few hundredweights less salt than the theoretical is still with us as he ever has been, but now speaking of solid and tangible facts that cannot be denied. We are strongly of opinion that by the time the Castner Kellner Company is producing bleach and caustic at £4. 5s. per ton respectively, or say £3. 8s. 4d. per ton of combined product, it will have very little to the good except the quality of its caustic; and when we reflect that these require an effective Board of Trade unit for 0.4d., and such a unit be found to cost say a penny, the minimum production at once jumps to about £5. 10s. per combined ton even with no loss of mercury, there seems to be no possible reason why the manufacturers on present lines should not have thrown themselves into a prematurely early grave.

There is one factor in the cost of Leblanc production which, perhaps, deserves individual consideration and that is the price of the unit of sulphur. Taking it at fourpence, it means roughly 16s. per ton of combined bleach or caustic, but is there not reason to suppose that this charge may not be a permanent one? Sulphur has a twofold value—for its sulphur and its copper content, and of these the latter is the more important. To extract the copper to be eliminated, the sulphur must be separated, and hitherto the alkali manufacturer and the copper extractor have been able to go hand in hand, the former paying (of course for value received) for the sulphur which he renders to the latter. But as the unit of sulphur decomposed by sulphuric acid is reduced per ton of

matter what the reducing agency), so the balance he users of the two contents becomes more and urbed, and it seems to us inevitable that very im-ncessions will have to be made to the alkali manu-duce him to burn as much sulphur as possible—words to cheapen Leblanc caustic as against the article.

forced to come to the conclusion that the case for ompany is by no means so strong as a thinking ight wish to see it. Regarded from the scientific anical standpoint, we think the process worthy of it praise, but we are by no means certain as to its obabilities. Taking into consideration the more ure of the plant, and the heavy patent purchase we see many loopholes by which the anticipated may escape, and we submit that an electrolytic which requires caustic to stand at £9. and bleach at n—when its cost prices are £5. and £4. respectively can shew 17% dividend on paper, is starting upon aking from a very insecure foundation.

IZATION OF SUGAR BEET IN EUROPE.

be remembered that representations were made to the Agricultural Society last year in favour of the encouragement a cultivation in this country. After due consideration of al the Council replied, as reported in our columns at the lthough in an unusually dry and sunny summer beetroot ent saccharine matter may be grown, yet it is doubtful th the average English summer the cultivation of beetroot this country would prove remunerative. The most ardent beet culture could hardly construe this as a favourable uring the present season we have on several occasions had tention to the declining area of the sugar beet crop in other continental countries. This is the more noteworthy ll to mind the bounty system under which the cultivation et has been fostered and extended in Europe. Not only griculturists, but English capitalists whose money is the West India cane sugar trade, will study with interest ication which M. Georges Dureau has made to the Société 'Agriculture de France on the progress of sugar beet cultiva-ope during the last 12 years.

in the price of sugar last winter resulted in a marked e the area sown to sugar beet in Europe this season. Accord-ent inquiries of the Association Internationale pour la ucriere, the diminution for the principal beet-growing f Europe—Germany, Austria-Hungary, Russia, France, nd Holland—amounts this year to 200,000 hectares, or es, which represents a decline of 13 per cent. on last year's ew of this retrograde movement it is of interest to glance at of sugar beet cultivation during the last dozen years, the h has elapsed since legislation placed France in a position e could compete upon equal terms with the other principal countries. Accordingly, the subjoined table shows, in of hectares (1,000 hectares equal 2,470 acres), the areas -beet in the respective countries in the years named, and at e have added a line showing the annual average acreag-s le period. The totals in the last column include, in some nificant areas contributed by European countries other than erated in the table:—

REAS OF SUGAR-BEET IN EUROPEAN COUNTRIES
(Thousands of Hectares).

	Ger- many.	Austria Hungary.	Russia.	France.	Bel- gium.	Hol- land.	Total.
1884	316	261	319	149	32	21	1,098
1885	234	138	327	113	20	16	848
1886	277	205	296	156	35	18	987
1887	264	168	252	161	35	19	900
1888	280	216	268	172	40	20	997
1889	299	273	258	206	50	25	1,111
1890	329	299	294	222	52	29	1,225
1891	336	328	298	223	54	21	1,260
1892	352	331	279	218	49	24	1,252
1893	386	350	300	220	57	27	1,340
1894	441	376	336	236	71	34	1,495
1895	377	289	346	199	57	33	1,296
1896	324	270	298	190	46	24	1,152

It is seen that, whilst the area sown in 1884 reached 1,098,000 hectares, it fell in each of the four succeeding years below 1,000,000 hectares, or 2,470,000 acres. But in 1889-90 the area again rose above a million hectares, and in 1894-95—that is, last season—it approached a million and a half, this being the high-water mark for the period under review. If we compare the aggregate area in 1884-85 with that in 1894-95—the year that led to the crisis—we see that in this space of 11 years the total area increased by 397,000 hectares, or 980,600 acres, equivalent to an addition of 36 per cent. The table further shows what share each country has contributed to this extension.

Thus, comparing 1884 with 1894, Germany increased its area from 316,000 hectares to 441,000 hectares, the difference of 125,000 hectares representing 39 per cent. on the area in the earlier year. Similarly in Austria-Hungary the increased area amounted to 44 per cent., in Russia to 56 per cent., in France to 59 per cent., in Belgium to 121 per cent., and in Holland to 61 per cent. on the respective areas of 1884. The extension of beetroot culture is thus seen to have been general in its distribution when the two years 1884 and 1894 are compared, and, excepting in Russia, where the increase is comparatively trivial, all the countries concerned have participated largely in this development.

The unprecedented depreciation in the value of raw sugar upon all the markets of the world has, however, promptly checked this inclination to extend the area under the beet crop. A comparison of the areas for this year and last year will show that everywhere excepting Russia, where the area has been more uniform throughout, there is a considerable decline in the extent of land which has this season been placed under the crop. As compared with last year's area, indeed, Germany now registers a decline of 16 per cent., Austria-Hungary of 23 per cent., France of 15.6 per cent., Belgium of 19 per cent., and Holland of 3 per cent. Russia, on the contrary, is credited with an increase of 3 per cent. It should be remembered, however, that Russia is a closed market, protected by extremely high duties upon sugar, and it thus escapes to a considerable extent—though not entirely—those fluctuations which take place in countries which are more susceptible to the variations in the markets of the world.

Generally, it may be said that between 1884 and 1894 the cultivation of sugar-beet progressed till the area devoted to it had increased by 36 per cent. in the principal European countries. Then, as a result of the crisis, this year's area has in the aggregate fallen off to the amount of 13 per cent. of that of last year. It is of interest to inquire to what extent the relative positions of the several countries have been affected by the fall in the price of sugar and the consequent reduction in the value of the beet crop. If we assign to each country its percentage of the total European area of beetroot in 1884-85 and in 1895-96 we get the following figures:—

	Austria- Hungary.	Russia.	France.	Belgium.	Holland.
1884	28.79	23.77	29.02	13.55	2.91
1895	28.60	22.48	26.74	15.36	4.40

It can hardly be said that Germany has lost her position, for this year she claims 28.6 per cent. of the beet area of Europe, which differs very slightly from the 28.79 per cent. in 1884. Austria-Hungary, again, shows little variation with a decline from 23.77 per cent. to 22.48. Russia, which possessed 29 per cent. of the European area in 1884, has now only 26.74 per cent. The countries of Western Europe have all bettered their positions, France having advanced from 13.55 per cent. to 15.36, Belgium from 2.91 per cent. to 4.4, and Holland from 1.94 per cent. to 2.52. Leaving Russia out of account, it is seen that the order of precedence is the same now as it was 11 years ago.

ARMoured HOSE.—We have this week been privileged to see some Sphincter Grip Hose, of a diameter, which we believe, has not yet been equalled. Messrs. F. Reddaway and Co. have just completed a large foreign order for 9 inch diameter hose in 30 ft. lengths, and these serpent like monsters lying ready to be packed for shipment gave an exceedingly good idea of the capabilities of the firm. We hope in a Special Issue to give some particulars of Messrs. Reddaway's works and products, which cannot fail to interest our readers.

Obituary.—On Monday last *Mr. H. D. Pochin* died at Bettws-y-Coed, at the ripe age of 71. Mr. Pochin was long and honourably connected with the chemical trade, his name being inseparably associated with paper-makers' chemicals and alumina salts.—*Mr. Vernon Heath.*—The death is announced of Mr. Vernon Heath, the well-known photographer, at the age of 75. Mr. Heath's landscape photography and his views of country houses attained to a high degree of excellence. They were considered marvellous achievements at a time when photography had not been brought to such a pitch as it has now reached, and they still compare favourably with the best camera pictures of to-day.

Modern Oil Engines.

THE CLAYTON-SHUTTLEWORTH ENGINE.

THIS engine is built upon the patents of Knight and Weyman. It is of the vaporiser type, and works with the oils obtainable everywhere for lamps and other purposes, having a flashing point of about 120 degrees Fahrenheit, or with heavy oils, including the Broxburne and Lighthouse oils, having a flashing point as high as 240 degrees F.

The vaporiser is a simple jacket cast with the separate extension of the cylinder like that common to gas engines. It has no working parts, and it performs its function without trouble of any kind and is unaffected by the density of the oil used. No trouble is experienced with anything in the nature of a deposit. Perfect combustion of the oil vapour produced takes place in the cylinder, leaving no deposit there, the exhaust being almost invisible on a dry day when working with a full load, and quite dry and free from oil in any form.

The engines are made strictly to gauge, and are of the best materials and workmanship, and they can be placed in the hands of any ordinarily intelligent man and be perfectly relied upon.

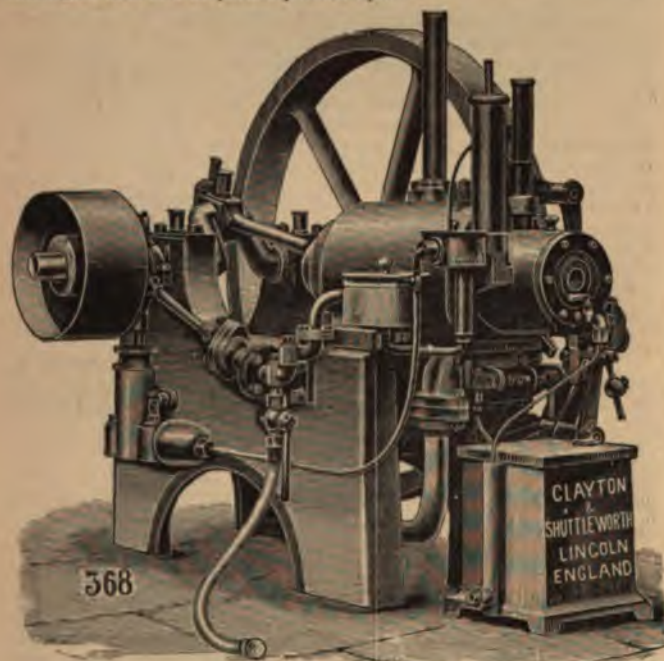


FIG. 1.

It acts upon the four-cycle principle, that is, an impulse is obtained every other revolution; no other principle will give such good results.

The engine is fitted with a small oil pump and a vaporiser, the latter being placed at the end of the cylinder. The oil is contained in a small tank which can be placed in any convenient position in the engine-house. The tank is connected by a pipe to the small pump, which is actuated by the governor of the engine. As the engine requires it, a drop of oil is pumped automatically into the vaporiser, where it is vaporised, and as the piston draws the vapour into the cylinder, air in excess is also drawn in through a separate valve. Upon the charge being compressed, it is fired by an ignition tube which is kept red hot by means of a small blow-flame, no electrical apparatus being required. There are thus no complicated or intricate parts, the whole being in view, and easily accessible, so that the engine can be taken to pieces without any difficulty.

To start the engine, the vaporiser is first heated (the time occupied being about ten minutes), then a few drops of oil are pumped into the vaporiser, and by turning the fly-wheel once or twice the engine starts. The starting is in no wise uncertain. When started, the engine can be run for hours with little attention, and if necessary, day and night.

Every engine is provided with an exhaust silencing chamber, which may be placed at any convenient distance from the engine. By this means the noise of the exhaust is reduced to a minimum.

The cylinder—in which the mixture of petroleum vapour and air is exploded—requires to be kept cool; for this purpose the cylinder is cast with a jacket surrounding it so as to form an annular space through which water is continually passing while the engine is in motion. For supplying the water, any one of three different methods can be adopted, the choice of which will depend on local circumstances.

A VISIT TO THE HOLYOKE PAPER MILL

AT the recent general meeting of the American Chemical number of members were taken over the works of the Paper Co., U.S.A., about which the following interesting were given to the members.

The company use both American and foreign rags. The first dusted in a star-shaped holder, which, by its revolution, rags to fall down from one star-point to another, thus driving dust, which escapes through the meshes of the sieve-like holder.

After being dusted the rags are placed upon tables where picked over by hand, and buttons, hooks and eyes, pieces of rubber, etc., are removed, scythes being used to cut them possible. Sometimes valuable articles are found, and the workers are allowed to keep. This furnishes a valuable income the careful examination of the rags. After the first over the rags are examined again by another person any remaining objectionable articles removed, and are also sorted into different grades. The rags are passed between closely fitting cogs which tear them into after which they are chopped into small pieces by an inst

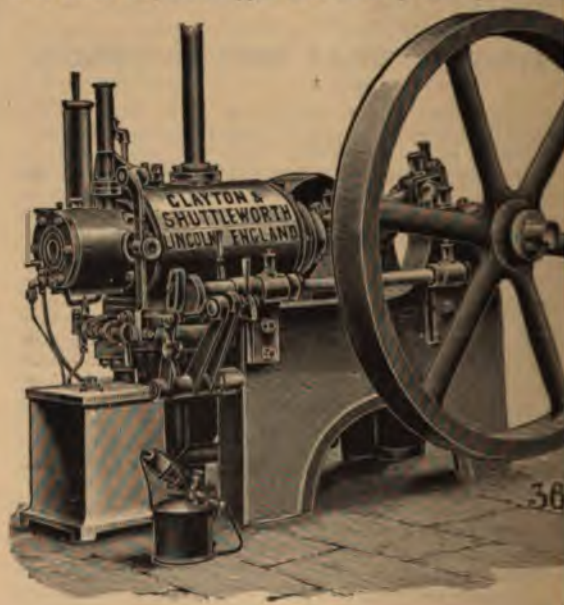


FIG. 2.

which the knives revolve in a manner similar to those of a law. After this the rags are sometimes subjected to another process by being whipped while in a suitable receptacle.

They are then put into large revolving cylinders and boil pressure of thirty-five to fifty pounds in milk of lime of about consistency of cream. After being thus treated sufficiently removed, the lime allowed to drain off, and the rags are then washing engines, where they are reduced to pulp, a stream spring water flowing in and a stream of dirty water flowing continuously at the other end of the washing machine.

The rags are reduced to pulp by the scraping action of those of one set passing through the narrow spaces between the and thus drawing out the fiber somewhat like the process of cloth for lint. When the rags have been reduced to pulp and washed, a solution of chloride of lime is run in for the bleaching the pulp. At this stage the flow of water in and out vat is checked, as is also the pulp-reducing action of the mechanical action is simply such as to keep the bleached stirred and rotating around in the vat of the machine.

After being bleached the pulp is allowed to flow into draining, i.e., into large receptacles containing a perforated bottom, remains from five days to three or four weeks, according to the merits. The chloride of lime water is there drained off.

The bleached and drained pulp is then put into beating where it is washed with water to remove any remaining chloride and if necessary, sodium hyposulphite is added to neutralise traces of the chloride. It is here reduced to a very fine fibre, is put into a large tank and pumped on to a paper machine by a large endless piece of wire cloth, which is drawn along and can it the fibre thinned with a sufficient amount of water. In this

is given a shaking motion, and as the water runs off the fibres en closely together, interlaced more or less, and packed down cohere into one continuous sheet. The remaining water, so far as possible, is withdrawn from the fibre by a suction pump. The wire cloth the paper passes between heavy rollers and upon of woollen felt. Thence it goes over iron cylinders heated inside. After the paper is thus dried, it is passed through a of glue or extract of rawhide. This animal sizing is thus by the paper, some vegetable sizing having been already ed into the material in the beating engine. The vegetable resin. The paper, wet with animal sizing, is hung over poles dries slowly. If rapidly dried, the strength of the glue is stroyed.

dried, the paper is calendered. There are two methods of ng: (1) the American, by which the paper passes between ee of chilled iron and two of paper arranged alternately; (2) gn, by which the paper is pressed between two heavy chilled r having been packed in layers between zinc or pasteboard

st quality of paper is not weighted. No weighting is done at of the Holyoke Paper Co. Whenever weighting is done at all, hting—or filling—material is introduced into the heating ith the pulp.

THE CHOICE OF FEEDING STUFFS.

course of a paper on this subject read by Mr. A. Smetham, C., before the Royal Lancashire Agricultural Society, the ates:

nice the so-called artificial foods came into general use, the oil for feeding has been duly appreciated, often, I fear, to an yond its true value. This, no doubt, has been brought about the fact that linseed cakes—or, as they are too often called, —were found to possess feeding properties to a much more egree than home-grown provender, and it was but a natural a to attribute the whole of the beneficial effects to the oil, and rd the part played by the other constituents of the cake. However, no gainsaying the fact that oil or fat is a necessary st of food, and that, weight for weight, it is the most valuable. speaking, it may be said that for feeding purposes oil is worth e-half times as much as an equal weight of starch, sugar, or stible carbo-hydrate.

importance to oil is the class known usually as albuminous orming compounds. This class includes those substances e white of egg, are capable on digestion of forming flesh in flection to fat. The chief characteristic of this class of sub- o far as the chemical composition is concerned, is the pre- itrogen, for which reason they are sometimes called nitro- mpounds. The presence of nitrogen, however, gives these s an interest and a value not attaching to any of the other nstituents of foods, inasmuch as the nitrogen, in the pro- digestion and in the subsequent part it plays in the body, is ted in a free condition, but passes off in the excrements in s as to be easily converted in the soil into nitrates, which are lable as plant food. From this it will be seen that the ds of a food perform not only their prime function of building me of an animal, but also to the extent of at least 90% of the resent, are capable of taking the place of nitrate of soda or ogenous manure upon the farm. In other words, the higher tage of albuminoids in a food, the more valuable is the dung mals fed upon it for manure. In considering, therefore, the lues of foods, allowance must be made not only for the value aminoids as food, but also for their residual value as manure. t class of substances to claim our attention as constituents of t of which starch and sugar are the two most familiar members. in ordinary analyses included under the head of digestible rates, and are, as their name implies, compounds of carbon lements of water. In the animal system they are capable, fat, of keeping up the heat of the body and of producing der no circumstances can they form muscle; and after per- ceir work as food are of no use whatever as manure. stable substances used for food contain sometimes minute and large quantities of woody fibre (cellulose), which being in- is useless as food. Although, unlike sand, it must be looked necessary part of all foods, it is, so far as feeding value is, quite as worthless, except, perhaps, in adding bulk to the

ineral matter" contains phosphate of lime and potash, both are valuable as bone forming and blood strengthening s. hat I have said as to the functions of the constituents of food een that for practical purposes it is necessary in judging of

the values of food to consider the percentages of oil, albuminoids, and carbo-hydrates; but, as these play different parts, we must understand to what extent these three classes are interchangeable.

Within wide limits, it may be said that the oil and carbo-hydrates are capable of replacing one another, provided the latter are given to the extent of $2\frac{1}{2}$ times the former; but neither of them can take the place of the albuminoids, although the albuminoids may to some extent replace the carbo-hydrates and oil. In other words, a food to be a perfect one must contain at least a certain definite amount of albuminoids; and if the relation of the albuminoids to the oil and carbo-hydrates falls below a certain point, there will be a waste of carbo-hydrates; but if, on the other hand, the proportion of albuminoids is greater than is actually necessary to meet the requirements of the animal, there will be a loss so far as food is concerned, but the manure will be increased in value. Hence, in considering the nature of any particular ration, it is better to err on the side of having too great, rather than too small a proportion of albuminoids.

Most of the home-grown crops which form the staple food of stock upon the farm contain a rather less proportion of albuminoids than is calculated to produce the most economical results, and it therefore follows that by the use of concentrated foods rich in albuminoids, not only is the purchased food utilised to the full, but there is less waste of the carbo-hydrates of the hay, grass, or turnips, which form the major part of the diet. I need not here dwell upon this part of my subject, since most intelligent farmers are fully alive to the fact that a great saving may be effected by the judicious use of concentrated foods.

It must not be thought, however, that the relative percentages of oil, albuminoids, and carbo-hydrates are the only points to be considered in making a choice of a feeding stuff. These, doubtless, in most cases will serve as a guide to the comparative value, but sight must not be lost of such points as digestibility, palatability, and soundness.

In considering the desirability of a food for a particular purpose, it would not do, for instance, to disregard the digestive capacities of the animals to which it is to be given.

Foods which may be eminently suitable for cattle, might be actually dangerous for horses, if used in the same proportions—and even among the foods which are suitable for a particular class of stock, there are differences in the relative digestibility of the constituents.

Again, it is perfectly well understood that animals take more kindly to foods which have a pleasant taste than to those which contain some acid, but possibly non-injurious principle, and will, therefore, thrive better with the most palatable food.

But in general practice if the food is sound, and is eaten by the stock, it may be considered that a very close approximation to truth may be obtained from a knowledge of the chemical composition, and no greatly enhanced price need be paid for supposed greater digestibility or palatability.

Soundness, on the other hand, is of prime importance; and I cannot insist too strongly on the necessity of purchasing and using only such foods as are in a perfectly sound condition. Possibly by the use of a mouldy cake no ill-effects may be noticeable, but, on the other hand, irreparable damage may be done—although, at present, it is impossible to say definitely from the nature of the mould whether it is of a poisonous nature.

Before attempting to give any rules to govern the purchase and use of feeding, the author calls special attention to the necessity, if feeding is to be made profitable, of a liberal diet. Every animal, whether growing or in milk, requires a certain well-ascertained quantity of food simply to keep it alive, and it would be possible so to regulate the feeding of say a bullock that it should neither gain nor lose in weight for a long period. During that time the very considerable quantity of food which it would have consumed would be, from the economical beef-producing point of view, entirely wasted; and it does not require much consideration to understand that it is only when food in excess of the quantity required for bare subsistence is given that a profitable return can be obtained. From this it may be said, without any fear of contradiction, that true economy in feeding lies in the shortening of fattening operations, or in other words that early maturity is the passport to success.

Another point to be kept in mind in the choice of feeding stuffs is that by the liberal use of purchased cakes and meals a much larger head of stock can be kept upon a given acreage, and with the present low prices of imported foods, with no addition to rent and taxes, with a large increase in manure production, and with consequently larger home-grown crops, the judicious expenditure upon feeding stuffs may be, and I believe often is, one of the best investments that a farmer can make even in these days of hopeless depression.

SETTLEMENT OF THE BARROW DISPUTE. — The crisis in the Barrow steel trade has been amicably settled, an arrangement having been come to in reference to the wages difficulty, by which the Barrow Steel Works will again be put in operation as soon as possible. The men have accepted an advance of 8 per cent, in their wages.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

- Improvements in the Manufacture of Artificial Fuel. C. Weygany. 19,243. October 14.
Working Aluminium and Apparatus therefor. J. G. Accles and J. Pinfold. 19,265. October 14.
Manufacture of Sulpho-cyanides and Apparatus therefor. A. E. Hetherington, J. Raschen, V. Hurter, and J. Brock. 19,270. October 14.
Improved Refrigerating Machinery. W. B. Cumming and A. Webster. 19,301. October 16.
Disinfectant. H. Hicott. 19,418. October 16.
Improvements in Bunsen Burners. S. Marcus. 19,429. October 16.
Making Carbon dioxide from Waste from Manufacture of Calcium Carbide. H. S. Elworthy and P. D. Henderson. 19,445. October 16.
Connecting Earthenware and Metallic Pipes. J. J. Green and W. Oates. 19,493. October 17.
Improvements in Thermometers. A. Luraschi. 19,598. October 18.
Making Gas from Carburetted Air and Carbonic Oxide. A. Bourgois. 19,615. October 18.
Evaporating and Condensing Apparatus. A. Thomson. 19,623. October 18.
Secondary Batteries. W. H. Watt. 19,647. October 19.
Secondary Batteries. A. Schauschleff. 19,669. October 19.
Secondary Batteries. A. Schauschleff. 19,670. October 19.
Extracting Gold and Silver from their Solutions. H. L. Sulman. 19,681. October 19.
Improved Apparatus for the Manufacture of Salt. A. R. Davis. 19,692. October 19.
Manufacturing Solution of Sulphurous Acid for Curative Purposes. F. Hartmann. 19,702. October 19.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

An Improved Process for Obtaining Dry Manure and Ammonia from Fæces or Fæcal Matter and Apparatus therefor. W. P. Thompson, 6, Lord-street, Liverpool (communicated by Wirth and Co., 42, Hermannstrasse, Frankfurt-a-Maine). Eng. Pat. 24,063. Dec. 11, 1894.

The fæces are treated in a series of boilers, the first of which is heated by a steam coil, the resulting vapour charged with ammonia being freed from froth by vigorous beating. The vapour, after passing through sulphuric acid to remove the ammonia, is turned into the second boiler, and so on through the series, serving as a heating medium. The mass obtained in the first vessel is transferred into the second, and so through the series, by means of the pressure exerted by the vapour generated, being finally obtained in a state of semi-solidity. The effluent water is said to be sufficiently pure to pass direct into streams. The sulphuric acid scrubber is provided with an apparatus for removing the sulphate of ammonia as it accumulates. There are five drawings giving different views of the plant used.

Improvements in Obtaining a Continuous Supply of Hydrochloric Acid or Nitric Acid Gas, and in Utilizing Acid Sulphates. J. W. Walker, Fernlea, Irvine, N.B. Eng. Pat. 22,853. Nov. 26, 1894.

Salt and sulphuric acid are fed into the decomposing pot in the usual way in the proportions requisite for the formation of acid sulphate. The acid salt is then treated in one of the two following ways:—It is cooled, roughly ground and mixed with mono-sulphate and salt in the proportion of three parts of acid sulphate and two or three of mono-sulphate to every part of salt. This mixture is treated in a second decomposing apparatus fitted with a mechanical stirrer. The alternative is to treat the fused acid sulphate at once before cooling. This is accomplished by dividing the first decomposer by a weir, over which the fused acid sulphate flows, the salt and mono-sulphate also being added at this point. The quantity of salt is controlled by the amount of free acid in the sulphate. There should always be enough mono-sulphate present to prevent fushion in the second stage. To obtain nitric acid, nitrate of soda, etc., is used instead of salt.

Process of Making Phosphate of Lime Fertilizers. D. T. Day, 1,425, Euclid-place, Washington, U.S.A. Eng. Pat. 12,769. July 2, 1895.

Advantage is taken of the fact that mineral phosphates heated with carbonate of lime become largely soluble in citric acid solution. The temperature should be above 135°F., but below the fusion point. The presence of silica facilitates the conversion. Phosphates rich in silica are mixed with calcareous phosphates so as to leave a maximum

of 15% of silica in the finished product. An artificially-prepared mixture composed of phosphate, glass, etc., and chalk can be used. There should always be one equivalent of calcareous base of phosphate. By the addition of potash as kainit, etc., the no temperature can be reduced to 1200°F., and even 1000°F.

Under certain circumstances it is desirable not to control temperature. In such cases oxides of iron and alumina are used. The mixture composed of phosphate and calcareous base—carbonate, oxide, or hydrate—is mixed with about 10% of iron in form of hematite, and may be heated to any desired temperature between 1350°F. and 2500°F. A partially or entirely fused product soluble in citric acid (1 in 20) is readily obtained.

Improvements in and Relating to the Production of Cyanide of Ammonia. W. M. Mackey 32, Victoria Chambers, South Parade, and J. F. Hutchinson, 22, St. Enoch-square, Glasgow. Eng. Pat. Oct. 4, 1894.

A specially constructed blast furnace is employed, consisting of parallel vertical chambers, one filled with coke and the other with barium carbonate, and a certain amount of potassium carbonate necessary. The two chambers are connected at the bottom, and a barium carbonate chamber is extended downwards into a cooling chamber into which the barium cyanide may gravitate. Tuyeres admit hot air to the coke chamber, from which the hot gaseous current passes upwards through the barium carbonate, and an arrangement is made for utilizing any unspent heat for keeping hot the top of the barium carbonate chamber. The exit gases are separately treated for recovery of any cyanide or cyanate they may contain. The chambers are basic lined.

Improvements in and Relating to the Manufacture of Ammonia By-products. H. H. Lake 45, Southampton Buildings, London (communicated by C. Pieper, 3, Hindersstrasse, Berlin, N. W., and C. F. Seilerstrasse, Frankfurt-a-Maine). Eng. Pat. 22,207. Nov. 16, 1894.

Peat or turf is treated for the production of ammonia, tar, &c., by a process of destructive distillation, in which the temperature is kept low enough to avoid the destruction of some of the by-products. The distillation is effected in a retort, which may be either stationary or rotating. The first stage removes the water. When combustible gases come off at the test cock the second stage commences, and the heating retort is continued to gain the products of distillation. This stage is complete when the escaping gas is no longer combustible. The gas which now practically contains coke only, with the bulk of the nitrogen is heated more vigorously, and appropriately super-heated steam is added, air being carefully excluded. The steam decomposes into water and hydrogen. The O and C combine, forming carbonic acid, while the nitrogen combines with the nascent hydrogen, producing ammonia. This ammonia and the remaining H are passed through sulphuric acid, where the former is retained, the latter being used as fuel for heating the retort. Owing to calorific conditions the steam decomposed by the coke at a temperature which is too low to distill the ammonia.

Improvements in and Relating to the Treatment of Solutions of Chloride of Zinc, for the Purification thereof for Electrolytical purposes. Brock, A. E. Wareing and F. Hurter, all of G11, Exchange Buildings, Liverpool. Eng. Pat. 22,827. Nov. 24, 1894.

In patent 22,828 (C. T. J. 440, 262) reference is made to the electrolysis of solutions of zinc chloride, which by preference should be pure. This patent relates to the purification of solutions obtained by treating roasted blende with hydrochloric acid. These solutions contain lead and iron unless prepared as follows:—Excess of HCl is used to dissolve the zinc. The solution is then oxidized to convert the iron into the ferric state, and agitated at an elevated temperature with excess of zinc oxide until the impurities are precipitated. Hydrate of lime is precipitated with milk of lime may be substituted for the oxide of lime in the last stage.

Improvements in the Treatment of Solutions of Zinc Chloride for Purification thereof for Electrolytical purposes. J. Brock, A. E. W. and F. Hurter, all of G11, Exchange Buildings, Liverpool. Eng. Pat. Nov. 24, 1894.

When zinc chloride solutions are prepared from impure oxide of zinc such as are obtained by the roasting of zinc blende (Patent 22, C. T. J. 440, 262), the solutions are contaminated with sulphate of zinc, partly derived from the impure zinc oxide and partly from hydrochloric acid used. The presence of this sulphate is objectionable because when electrolysed a mixture of chlorine and oxygen is evolved off at the anodes, causing them to rapidly corrode. This inconvenience comes the difficulty by precipitating the sulphate with calcium, calcium, barium, or strontium, and separating the insoluble sulphate by filtration or decantation after settling.

ents in Salt. R. W. Barker, Monument Chambers, King William-London, E.C. (communicated by M. Sommer, Avery Island, Louisiana,)

late the caking of ordinary table salt, glycerine or a mixture of and cottonseed oil is incorporated, in the proportion of 1oz. to 125lbs. salt. When oil is used the proportions are: bs.; glycerine, 2—3ozs.; and cottonseed oil, 1—3ozs.

Correspondence.

not hold ourselves responsible for the opinions expressed by our correspondents.

THE COMPOSITION OF STARCH.

(To the Editor of the Chemical Trade Journal.)

Will you be so kind as to give me the following information:—the component parts of starch used for starching linen? they obtained, and in what proportion are they mixed? I am very grateful if you will kindly enlighten me on this matter, as it will assist me.—Yours, &c.,
H.T.G.
Hampton.

INDIAN MANGANESE.

ING of the pyrolusite deposits at Gosalpur, Jabalpur district, Mr. F. R. Mallett says:—The existence of manganese ore at Gosalpur appears to have been known a long time past, and the mineral has been in use to some extent amongst native glass makers in the neighbourhood. It was first brought to the notice of Government by Mr. W. G. in 1875, to whom we are indebted for the specimens submitted.

As the nature of the deposit is more or less obscure, I see no doubt that a large supply of this ore may be depended on at

it is a dark steel gray, finely crystalline pyrolusite, mixed with a proportion of psilomelane; it contains 54.66 per cent. of Mn, and 3.17 of iron, with .28 of (phosphorous) phosphoric acid. It contains 15.26 per cent. of available peroxide; as an oxidising agent, therefore, of high value, the average run of manganese ores, met with in India, containing only 60 to 75 per cent., but the presence of some iron reduces it some 3½ per cent.

It was pointed out that a considerable quantity of psilomelane is associated with the manganiferous micaceous iron at Gosalpur. If the ore is worked in connection with iron making, the psilomelane raised at the same time, and would be available as an ore of iron.

As it yielded 83.20 per cent. of available peroxide, or about the same amount as the lateritic pyrolusite.

Both sources combined, it may reasonably be hoped that a large supply of the ore will be procurable, when there is a demand for it.

Following are analyses of the ores as mined:—

INDIAN MANGANESE ORES.	
Pyrolusite from Gosalpur.	Psilomelane from Gosalpur.
..... 3.27	No. 1. No. 2.
of manganese .. 82.40	Iron oxide..... 3.13 9.13
of manganese .. 2.84	Alumina ..... .14 .60
of iron..... 2.01	Manganese oxide.. 75.34 73.00
..... 3.19	Lime 1.66 2.40
..... traces	Copper oxide..... 0.40 nil
..... 2.94	Cobalt 0.51 nil
..... traces	Nickel 0.16 nil
acid..... .36	Phosphoric acid .. 0.39 0.27
Phosphorus .16).	Silica 8.20 5.20
acid..... traces	Water 7.75 7.32
acid..... nil	 97.68 97.92
inc..... traces	
water 2.81	
..... .44	
100.26	
manganese, per	
..... 54.29	

STERNER-KELLNER ALKALI CO., LTD.—We are informed that the capital of this company, having been largely over-subscribed, the list of allotment letters was posted on Monday.

Trade Notes.

SOCIETY OF CHEMICAL INDUSTRY—London Section.—The first meeting will be held on Monday, Nov. 4th, at Burlington House, when Mr. W. J. Dibdin, F.I.C., will read a paper on the "Filtration of Sewage Effluents."

SOCIETY OF CHEMICAL INDUSTRY—Liverpool Section.—The chairman of this section, Dr. Gustav Schack-Sommer, will deliver his opening address on Wednesday, November 6th, at 7.30 p.m., in the Chemical Theatre, University College. The subject of the address will be "Chemical Industries as Auxiliaries for the Practical Farmer."

DUTCH Madder.—For some weeks the demand has been better, and considerable quantities have been exported to the States from Rotterdam. The new 1895 madder is being offered more freely, and is of good quality and bright colour. Messrs. Bunge's quotations are: Fine crop, 30s. 6d. to 32s. 6d. per cwt.; small, 24s. to 26s.; fine ombros, 20s. to 22s. 6d.; regrounds, 7s. to 19s. per cwt.

PETROLEUM IN JAVA.—It is stated that petroleum boring in Java continues to give satisfactory results. In the districts around Sourabaya, the oil wells yield abundantly, and a brisk local trade in the product has sprung up. In Mid Java, also, the industry has been started with success. Pipe lines have been laid from the wells to the tramway, and tank cars are there filled for despatch to Samarang, where oil warehouses are being built.

THE SOCIETY OF CHEMICAL INDUSTRY IN THE U.S.A.—The New York section is, we hear, pleasantly engaged entertaining Mr. Thomas Tyrer, the president of the society, who is now on a visit to New York. A delegation of the Chemical Society and of the S.C.I. section took him to visit the large steel works at Bethlehem to witness the manufacture of armour plates and heavy ordnance. After lunch at the works, a meeting of the Lehigh Section of the American Chemical Society was held, Mr. Colby, the metallurgical engineer of the works, reading an interesting paper on "Short methods of steel and iron analysis." The section intend giving Mr. Tyrer a dinner and an enthusiastic send off before he leaves for England.

ANOTHER LAMP ACCIDENT.—Last week, the Salford Borough Coroner held an inquest concerning the death of Sophia Bolland, widow, 65 years of age, who lived with her son-in-law, Richard Morris, a carter, at 30, Marple-street, Pendleton. On Saturday, the 21st ult., the deceased went upstairs to bed with a paraffin oil lamp. Her granddaughter accompanied her, and they had only been upstairs a few minutes when the granddaughter ran down shouting "Grandmother's on fire." The deceased had placed the lamp on a small table beside the bed, and by some means knocked it off on to the floor. The lamp was broken, and her clothes were set on fire. Assistance was procured, and after the flames had been extinguished deceased was taken to the Salford Royal Hospital, where she succumbed to her injuries on Saturday afternoon. The jury, in returning a verdict of accidental death, said the attention of the public ought to be drawn to the danger attending the use of common oil lamps.

THE REORGANISATION OF THE WEAVER TRUST.—A largely-attended meeting of the Trustees of the River Weaver Navigation was held at Northwich on Monday for the purpose of appointing representatives on the new Trust. Colonel France-Hayhurst presided. Under the Weaver Act of 1895 it was provided that the old Trust should elect ten members to the new body, the County Council twelve, the traders on the Weaver fourteen, and the Urban Councils of Northwich and Winsford one each. The persons selected by the existing Trust are life members of the representative authority, vacancies by death being filled by the County Council, all members, with the exception indicated, being appointed for three years. The following are the appointments made by the Trustees:—Colonel C. H. France-Hayhurst, Bostock Hall; Mr. C. Kay, Davenham Hall, Northwich; Mr. Joseph Verdin, The Brockhurst, Northwich; Mr. E. H. Moss, Ravenscroft Hall, Middlewich; Mr. S. H. Woodhouse, Norley Hall; Mr. S. H. Sandbach, Cherry Hill, Malpas; the Rev. J. R. Armistead, Sandbach; Mr. W. H. Verdin, Darnhall Hall, Winsford; Sir P. Henry Brian Grey-Egerton, Bart., Oulton Hall; and Captain H. E. Wilbraham, Massey Lodge, Northwich. The following have been nominated as candidates by the toll-payers:—Harry Boddington, Newcastle-under-Lyme; J. F. L. Brunner, Northwich; A. Crosbie, Wolverhampton; H. J. Falk, West Kirby; James Garner, Winsford; Edwin Hamlett, Winsford; Dr. Hewitt, Northwich; W. S. M'Dowell, Oxtown, Birkenhead; E. Milner, Northwich; T. Moore, Northwich; G. H. Morrison, Liverpool; H. Pretty, Liverpool; J. C. Probert, Winsford; John Rigby, Winsford; C. P. Walker, Stoke-on-Trent; Thomas Ward, Northwich. Unless there are two withdrawals a poll of the tollpayers will be taken for the election of fourteen. Seven of the candidates in this list are nominees of the Salt Union, while Messrs. Brunner, Mond, and Co. have nominated three. The Urban Council of Northwich have selected as their representative their chairman (Mr. J. H. Maddocks). The present chairman of the Trustees is Colonel France-Hayhurst, and it is expected that he will be elected to preside over the new body.

PERSONAL.—We learn that Mr. E. G. Clayton has acquired the practice of Mr. J. Parry Laws, F.I.C., at 32, Holborn Viaduct, E.C., and will carry on his practice there in the future instead of as formerly at 44, Holborn Viaduct. The new premises are nearly opposite the old address.

THE SOLVAY PROCESS CO.—This company sends us a nicely got up pamphlet descriptive of the various installations of Semet Solvay coke ovens. The illustrations are all good, and the supplementary letterpress details interesting and concise. There are also one or two sectional drawings, showing the main construction of the ovens.

PHOTOGRAPHY IN COMMERCE.—Some of the largest wholesale houses are now adopting photography and making it do good service in commercial travelling. For some time manufacturers in America and Japan have made most of their sales in Britain exclusively from photographs of their bulkier goods, and this movement is rapidly extending to such goods as knives, forks, and general electro-plate, glassware, hats, boots, &c. By combining the use of photography and the three-colour block process (known as "photo-chromotype") the articles may be most faithfully reproduced in their original colours. A number of such prints, lent by "The Photogram, Ltd.," are now on view at the Exhibition of the Society of Photo-Etchers, 23, Baker-street, London, W.

SUFFOCATED BY CO₂.—A labourer at Messrs. Renshaw and Cardwell's brewery, Junction-street, Hulme, met with his death under strange circumstances last week. He was cleaning out a large beer vat 10ft. deep, and having descended to the bottom of the vessel was overpowered by the fumes of the carbon-dioxide gas which had not escaped since the previous brewing. A fellow workman, named Ernest Bedford, went to the assistance of his comrade, but was himself almost overcome by gas and had to climb hastily out of the vat. His cries for assistance attracted the attention of a third workman, named Patrick Maher, who succeeded in fixing a rope under Burns's armpits, and so enabling him to be drawn from the vat. The man by this time was unconscious, and he died before the arrival of Dr. Daly, who was speedily in attendance. Burns was 58 years of age, and had been for many years in the employ of the firm.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are firm, with 90's quoted 1s. 3½d., and 50/90's 1s. 2½d. Crude carbolic (60%) is well sold, and now stands at 1s. 6½d.; crystals (40%) are firmer in position at 5¼d. Solvent naphtha is firm at 1s. 2d., makers being well sold; crude steady at 5¼d. Anthracene 11¼d. for 30% A and 8½d. to 9d. for B. Pitch firm at 38s. to 38s. 6d., f.o.b. East Coast.

Sulphate of ammonia is easier again, prices having fallen seriously in the North. The other ports are easier in sympathy, dealers being busy to accelerate the decline. Beckton value is £9. 2s. 6d., London outside makes £9., Liverpool £8. 18s. 9d., Hull £8. 17s. 6d., and Leith £8. 16s. 3d. to £8. 17s. 6d., all prompt. Nitrate quiet at 7s. 9d. per cwt., fine quality.

REPORT ON MANURE MATERIAL.

There is a moderate amount of business passing, but on the whole the market is rather quiet, with prices tending somewhat in favour of buyers. Quotations for mineral phosphates are unchanged, and there is nothing special to report in these. River Plate bones are less inquired for, and large cargoes now offer at £4. per ton, delivered to good United Kingdom ports. Probably something less would be accepted if bid. Considerable sales of Bombay bone meal have been made at £4. per ton, and there are still sellers at the price. Crushed Kurrahee bones, for shipment, are worth about the same price. Nitrate of soda is still quiet at 7s. 9d. per cwt. for fine quality, on spot. In the forward position the market is perhaps somewhat firmer, especially for ordinary quality, the value of this being about 8s. per cwt., autumn shipment.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is quiet, and prices generally are easier; a considerable quantity of Lagos having been sold at £21. 5s. transit, and £21. ex quay. There is no change in olive, which is ruling very quiet at the moment. Linseed is firm, especially Liverpool makes, at 21s. 6d. to 22s. per cwt., in export casks. Cottonseed steady, with Liverpool refined at 17s. 9d. to 18s. 3d. per cwt., and American at

17s. 6d. per cwt. Castor oil is steady, but sales are rather restricted. Good seconds Calcutta is quoted 2½d., ex store. First pressure Fat 2½d. to 2¾d. per lb. Tallow is steady, but quiet. Resin is firm, especially low grades; common is said to have been sold at 4s. per cwt. Spirits of turpentine are unaltered at 20s. 9d. per cwt., a rather limited inquiry. Petroleum steady: American 6d. to 7d. and Russian refined 5¾d. to 6d. per gallon.

COLOURS are steady, without alteration in price. Ochres: Oxfordshire, common, £10., medium, £12., best, £14.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, 40s., 50s., and common, 18s.; Irish, Devonshire, 40s. 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Um Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red unchanged. Venetian red, £6. to £10. Cobalt: Prepared 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, £12. Zinc oxide, £22. 10s. to £25.

LIVERPOOL MINERAL MARKET.

Our market still keeps firm, and the tendency is still upwards. Manganese arrivals have been comparatively small, and prices are firm. Ground manganese still in strong demand at unchanged prices—£8., £10. 10s., and £12. per ton, according to quality. Manganite iron ore is in request; prices are firm without alteration. Chrome The arrivals reported last week have all been delivered to consumers and prices therefore remain without alteration. Bauxite is in demand at last quotations, viz.: 20s. per ton for first quality, 16 ton for second quality, and 12s. per ton for third quality, local cargoes. French chalk: Arrivals have been fairly large this week, but it has all gone into consumption, and it is very difficult to pace with the demand; prices are very firm at 70s. to 75s., 80s., and 100s. per ton for "Angel White" qualities, according to grade. Wolfram and scheelite are in better demand, with little stock. Arsenic continues to meet with a good demand at £16. per ton. Fuller's earth is in fair request at unaltered prices—50s. for lump powdered 55s., and impalpable powder 75s. to 80s. per ton. C and umbers meet with a ready demand at unaltered prices;umber being done at 40s. per ton. Carbonate and sulphate of barium are in fair request, and bringing full prices, with a tendency to advance. Bog ore is steady at 25s. per ton. China clay is firm at 20s., and 35s. per ton, according to grade. Plumbago meets with a demand, especially for the powdered for foundries and lantern purposes, and prices remain steady at from £6. to £12. 10s. per cwt. according to quality.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, dull: Scotch warrants at 46s. 10d.; Middlesbrough, 38s. 1d. cash, and hematite, 47s. Copper, firm: Chili bars, G. O. B.'s and G. M. B.'s close £45. to £45. 5s. cash, and £45. 7s. 6d. to £45. 12s. 6d. three months; Straits closed at £66. 5s. to £66. 15s. cash, and £66. to £67. 5s. three months; Australian, £67. 2s. 6d. Lead, Spanish, £11. 7s. 6d.; £11. 8s. 9d. to arrive; for spot, £11. 11s. English, £11. 12s. 6d. to £11. 15s.; Silesian spelter, ordinary, 2s. 6d. Nickel, 1s. 1½d. Antimony, £31. Quicksilver: first £7. 7s. 6d.; second hands, £7. 6s. Copper shares, steady: 2½ to 2¾; Copiapo, 1½ to 1¾; Libiola, 3¼ to 3½; Maso Barry, 2½ to 2¾; Rio Tinto, 17½ to 17¾; Tharsis, 4¾ to 5.

GLASGOW, WEDNESDAY.—Market firmer, with good business. Scotch done at 46s. 9d., 46s. 11d., and 46s. 10d. cash, also at 47s. 1½d., and 47s. 0½d. one month; closing with buyers at 46s. cash, sellers ask 46s. 10½d. Cleveland done at 38s. 1½d., closing with buyers at 38s. 1d. cash, sellers ask 38s. 1½d. Cumb hematite done at 47s. 9½d. one month; closing with buyers at 47s. 6½d. cash, sellers ask 47s. 7½d. Middlesbrough hematite with buyers at 45s. 10½d. cash, sellers ask 46s.

MISCELLANEOUS CHEMICAL MARKET.

The market all round in alkalies is steady, with a fair amount of business doing for export in bleaching powder, caustic soda, and (58%). Spot and forward values are without change; quotation the spot being as follows:—Bleaching powder, £7. 10s., f.o.b. Live and £7. per ton nett, makers' works; caustic soda, f.o.b. Live 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 60%, £6. 10 ton, 10-ton lots and upwards. Ammonia alkali £3. 7s. 6d. per nett, bags, f.o.r. makers' works; £3. 15s., casks, f.o.b. Live. Leblanc soda ash (48-50%) 1d. per degree, f.o.b. Soda crystals value change. Chlorate of soda scarce for prompt delivery at 6½d. p

of potash $4\frac{3}{4}$ d. to $4\frac{1}{2}$ d. per lb. Sulphur £3. 12s. 6d. to makers' works. Saltcake firm at 22s. 6d. to 24s. per ton, makers' works. Sulphate of copper continues in good request at £16. 10s., f.o.b. For green copperas demand is active, and prices are firm. In white powdered arsenic supply is requirements, and price nominal at £15. 10s. to £16. for near ward delivery. For potash, caustic and carbonate, the demand sustained, and prices are firm. Yellow prussiate of potash quiet at £1. 10s. per lb. Acetate of lime, brown £5., c.i.f. Other acetates at £1. 10s. per lb. Sugar of lead lower; foreign white offering at £21. 15s. to c.i.f. Nitrate of soda firmer for forward delivery. Generally business is reported in chemicals, but no substantial improvement can yet be recorded.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

ards the close of last week sulphate of ammonia lost the recent ice of steady recovery, and the price again reverted to the down though so sudden was the change that neither buyers nor sellers ery well where they were rightly. Some of this uncertainty rains, and the quotation, as below, for prompt (£8. 16s. 3d. to £8.) must be taken as an approximation only. Forward business) disarranged, and lower terms procurable than a week ago. oils and paraffins continue in large deliveries, and prices as re nominally unchanged, although this week there is a small ongst the masters because of a report that one of them has traitor to the compact, and is secretly underselling. This is bad industry, if confirmed and not instantly stamped out. Ordinary ls are on an easy market, with some stocks rather low, but e no changes as yet in the range of quotations. Bichromate of and bichromate of soda are in rather better demand at the old ation prices. There is a feeling that these prices will be raised, for some months. Scotch dyeing and calico printing being employed, are using more dye chemicals.

prices current are:—Soda crystals, 37s. 6d. nett, Tyne; h, 48/50°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett, v; caustic soda, white, 76° £9. 5s., 70/72° £7. 15s., 60/62° ., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching £6. 10s. to £7. nett, Tyne; saltcake, 22s. 6d.; borax, English, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; ate of potash, $4\frac{3}{4}$ d. nett, for Scotch and English deliveries (for $4\frac{1}{4}$ d. nett, f.o.b. Glasgow); bichromate of soda, $3\frac{3}{4}$ d. nett, for and English deliveries (for export, $3\frac{1}{2}$ d. nett, f.o.b. Glasgow); of potash, $4\frac{3}{4}$ d. less 5%, Liverpool; nitrate of soda, 7s. 6d.; sulphate of ammonia, £8. 17s. 6d. prompt, f.o.b. Leith; oniac, first and second white, £39. and £37. nett, any sulphate of copper, £16. 15s., less 5%, Liverpool; paraffin ard, $2\frac{1}{2}$ d., and soft, $1\frac{3}{4}$ d. to $2\frac{1}{2}$ d. per lb.; paraffin wax, 120° ined, $2\frac{3}{4}$ d. to $2\frac{1}{2}$ d.; paraffin spirit (naphtha), 8d. to 9d. per paraffin oil (burning) No. 1, $6\frac{1}{2}$ d., and crystal, $6\frac{3}{4}$ d., at works, ch buyers (English sales about 1d. lower); ditto (lubricating) . 7s. 6d. to £4 15s., 885° £5. to £5. 5s., and 890/895° £5. £6. 10s. Week's imports of sugar at Greenock were 48,622 et unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

e is little or no change to report in the market. There is a business doing, and stocks have recently been considerably . Sulphur continues very scarce, at £3. 17s. 6d. per ton. caustic soda, £9. 5s. to £9. 10s. per ton. Soda crystals, per ton, gross weight, locally. hing powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton, caustic soda, 76/77°, £9. 10s. per ton, nett; do., 70°, £7. 15s. nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; h, 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per tt; do., 50%, £4. per ton, nett; alkali, 36%, £2. 15s. nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. r ton, nett; do., 52%, £5. per ton, nett; hyposulphite of 7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; 00° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. on, nett; soda crystals, casks, £2. 5s. per ton, eight; do., 2 cwt. bags, £2. 5s. per ton, nett weight; e of potash, 5d. per lb., less 6%; pearl hardening, r ton, nett; pure white sulphate of alumina, £4. 2s. 6d. nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, s. per ton, nett; carbonate of alumina, £28. 15s. per ton, aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, s. per ton, nett.

SALT.—South Durham salt remains unaltered, at 9s. 6d. per ton, f.o.b., for Tees.

COALS.—Trade is, on the whole, only quiet, though the demand for household and gas coals improves as the winter draws near. Today's prices are as under:—Best Northumbrian steam, 8s. 6d. to 8s. 9d. per ton; second qualities, 7s. 6d. to 7s. 9d. per ton; small steam, 4s. per ton; gas coals steady, 6s. 9d. to 7s. per ton; household coals, 10s. to 10s. 6d. per ton; coke firm, 14s. to 15s. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The trade here continues satisfactory, with little change in prices. The imports of cottonseed during the week have reached a total of 8,883 tons from Alexandria, which makes a total to date of 143,252 tons, against a year ago 136,161 tons. Refined cotton oil steady at 15s. $7\frac{1}{2}$ d. naked, spot; November-April, 15s. $10\frac{1}{2}$ d. There are buyers of crude at 14s. 3d. naked for November-April. Casks £1, and barrels 30s. per ton extra. The imports of linseed this week have been 19,194 qrs. Linseed oil on the spot has declined 5s. per ton, closing firm at 19s. 9d., naked; November-December, 19s. 3d.; January-April or May-August, 18s. 9d.; boiled and refined from £1. to £1. 10s. per ton extra. The exports for the week have been:—Cotton oil, refined, 1,980 cwt., and linseed oil, 820 cwt. Tallow continues active at the advance of £3 per ton. Olive oil unchanged. Spirits of turpentine, 21s. Cod oil from £17. to £21. per ton. Boiled siccative oil, £13. per ton. Liquid soap, £16. per ton. New wool oil, £14. per ton.

CAKES.—Linseed cakes, a firm market: 95% pure, £6. 5s. per ton; Russians, £6.; Oil cakes, £5. 2s. 6d. to £5. 7s. 6d. per ton. Cotton cakes remain in good demand, with a firm tone; best makes, £4. to £4. 2s. 6d.; seconds, £3. 15s.; best makes, November-April, £3. 15s. to £3. 17s. 6d. Rape cakes: Black Sea, £2. 2s. 6d. to £2. 5s.; feeding, £4. 2s. 6d. per ton.

PAINTS.—Makers continue quiet with the exception of some firms being busy with export orders. Ready-mixed paints in bulk, 17s.; packed in various-sized lever tins, 24s. 6d. per cwt. Venetian red, any form, £4. per ton. Oxide of iron, dry, £8. per ton. White and red leads unchanged. Ultramarines from 3d. to 8d. per lb. Vermilionettes from 6d. per lb. Dry vermilion, 2s. 3d. per lb. Black, blue, oxide of iron, venetian red, yellow ochre, in oil from £11. per ton. Paint remover from 25s. per cwt. Imperial black varnish, £5. 10s. per ton. Oak varnish, 5s. 6d. per gallon. Cart grease, £6. per ton. Locomotive wagon grease, £10. per ton.

New Companies.

Leith Salt Co., Ltd.—CAPITAL £1,500., in £1. shares. This company has been formed to trade as manufacturers and dealers in salt and other chemicals, and to act as general merchants.

Catherall and Co., Ltd.—CAPITAL £20,000., in £5. shares. This company has entered into an agreement with W. Catherall, at Buckley, N. Wales, to manufacture and deal in cement, lime, terra cotta, tiles, pipes, and bricks. The subscribers to the memorandum of association are:—W. Catherall, Buckley, N. Wales, brick manufacturer; W. S. Catherall, Buckley, N. Wales, brick manufacturer; Miss S. Catherall, Buckley, N. Wales; Miss F. M. Catherall, Buckley, N. Wales; E. Samuelson, West Kirby, seed crusher; C. W. Willmer, Birkenhead, newspaper proprietor; F. E. Roberts, Chester, solicitor.

Barytes and Lead Co., Ltd.—CAPITAL £10,000., in £1. shares. This company has been formed to search for, raise and deal in manganese, lead, iron, barytes, etc. The subscribers to the memorandum of association are:—J. Beazley, 185, Fenchurch-street, E.C., agent; R. L. Fricker, 90, Milton-road, S. Hornsey, engineer; E. D. McCauley, 24, Claverton-street, S.W., contractor; A. F. Burrows, 165, Fenchurch-street, E.C., secretary; J. M. Darnell, 49, Camden-square, N.W., agent; J. Lewthwaite, 137, Camden-road, N.W., engineer; R. B. Fastnedge, 5, Lime-street, E.C., merchant.

Castner-Kellner Alkali Co., Ltd.—CAPITAL £300,000., in £1. shares. This company has entered into an agreement with the Aluminium Co., Oldbury, near Birmingham, with a view to carrying on the business of manufacturers and dealers in chemical products, salt, etc., and mine owners, dyers, and drysalers. The subscribers to the memorandum of association are:—H. Y. Castner, 13, Abchurch Lane, E.C., engineer; Sir H. E. Roscoe, 10, Bramham Gardens, S.W.; J. S. Parkin, 11, New-square, Lincoln's Inn, barrister; G. H. Clarkson, 10, Matheson-road, W., Kensington, secretary; A. Clarke, 421, Portland-place, W., lieutenant-general; G. M. Hill, 117, Cannon-street, E.C., solicitor; L. E. Townroe, Grange-road, Norwood, gentleman.

IMPORTS OF CHEMICAL PRODUCTS

THE PRINCIPAL PORTS OF THE UNITED KINGDOM

LONDON.

Week ending October 19th.

Acetic Acid —		
Holland, 224 pks.	A. & M. Zimmermann	
" 70	F. J. Putz & Co.	
Acetone —		
Holland, 10 pks.	A. & M. Zimmermann	
" 1	G. Rahn & Co.	
Alum —		
Holland, 30 pks.	H. Wallace & Co.	
" 158	Ohlenschläger Bros.	
Ammonium Chloride —		
Holland, 7 pks.	H. Lorenz	
Aniline Salts —		
Holland, 2 pks.	Phillips & Graves	
Antimony Ore —		
France, 1 t.	H. Johnson & Sons	
Barium Chloride —		
Germany, 46 pks.	Petri Bros.	
Barytes —		
Belgium, 75 cks.	W. Harrison & Co.	
" 71	A. Zumbach & Co.	
Holland, 23	O'Hara & Hoar	
Germany, 19	J. Kitchen	
Holland, 62	Silicate Paint Co.	
Belgium, 156	O'Hara & Hoar	
Holland, 22	W. Harrison & Co.	
Boracic Acid —		
Holland, 10 pks.	H. Lorenz	
Bromide of Iron —		
Germany, 5 pks.	A. & M. Zimmermann	
Camphor —		
Germany, 12 pks.	R. Warner & Co.	
" 107	Hale & Son	
China, 388	"	
Germany, 10	E. Barber & Son	
Caoutchouc —		
Zanzibar, 31 c.	L. & I. D. Jt. Co.	
Natal, 37	Prop. Bull Wf.	
" 28	Lewis & Peat	
E. Indies, 80	L. & I. D. Jt. Co.	
Germany, 12	Clarke & Smith	
France, 2 pks.	F. C. Devon & Co.	
Spain, 5	W. C. Bacon & Co.	
Natal, 85	L. & I. D. Jt. Co.	
P.E. Africa, 63	"	
Germany, 1	Wallace Bros.	
" 6	Arbuthnot, Latham & Co.	
France, 23	H. Johnson & Sons	
Castor Oil —		
France, 20 brls.	Beresford & Co.	
" 10	F. Boehm	
Belgium, 20 cks.	Anderson, Weber & Smith	
France, 52	J. T. Morton	
" 90	Lucas & Spencer's	
" 10	Anderson, Weber & Smith	
Belgium, 86	Fuerst Bros.	
Caustic Potash —		
France, 10 c.	J. A. Reid	
Chemicals (otherwise unclassified)		
Germany, 957 cks.	T. H. Lee	
" 2 pks.	Phillips & Graves	
" 2	W. Harrison & Co.	
" 48	8 cs. L. & I. D. Jt. Co.	
U. States, 21 cks.	R. Greening	
Holland, 14	T. Palmer	
Belgium, 8	"	
Germany, 67	Craven & Co.	
" 133 pks.	A. & M. Zimmermann	
Citric Acid —		
France, 40 pks.	B. & F. Wf. Co.	
Cream of Tartar —		
France, 27 pks.	B. & F. Wf. Co.	
Portugal, 72	C. Webster	
Holland, 4	F. C. Devon & Co.	
" 2	W. C. Bacon & Co.	
France, 5	M. Ashby, Ltd.	
Spain, 5	B. & F. Wf. Co.	
Dextrine —		
Germany, 5 pks.	City Coml. Wf.	
France, 80	C. A. Comyn	
Dyestuffs —		
Annatto		
Melbourne, 6 pks.	Grimwade, Ridley & Co.	

France, 3	B. & F. Wf. Co.	
Argols		
Italy, 166 pks.	B. Jacob & Sons	
Cochineal		
Canaries, 5 pks.	L. & I. D. Jt. Co.	
" 9	W. M. Smith & Sons	
Teneriffe, 4	F. Huth & Co.	
Cuton		
E. Indies, 3 pks.	L. & I. D. Jt. Co.	
Extracts		
U. States, 20 pks.	J. Owen	
" 100	W. Burton & Sons	
Germany, 1	T. H. Lee	
France, 10	Bailey & Leatham	
Denmark, 2 cks.	M. D. Co.	
Germany, 6 cs.	H. Lambert	
Austria, 150	A. J. Humphrey	
" 200	Hoare, Wilson & Co.	
France, 105	Bennett S. S. Co.	
Denmark, 20 cks.	Sorensen & Co.	
Indigo		
E. Indies, 28 cts.	Wallace Bros.	
" 20	Forbes, Forbes & Co.	
Sydney, 4	L. & I. D. Jt. Co.	
E. Indies, 11	Parry & Co.	
" 9	P. Macfadyen & Co.	
Tanner's Bark		
Natal, 36 t.	A. & W. Nesbitt	
" 89	Boucher, Mortimore, & Co.	
U. States, 11	W. & S. Bowditch	
Belgium, 40	Moreton Cox Bros.	
S. Australia, 54	W. Allison & Co.	
Belgium, 38	Leach & Co.	
Valonia		
A. Turkey, 143 t.	A. & W. Nesbitt	
" 50	J. Graves	
" 72	Hicks, Nash & Co.	
Dyestuffs (otherwise unclassified)		
Singapore, 20 pks.	Prop. Hay's Wf.	
Farina —		
Germany, 100 pks.	E. & T. Pink	
Holland, 25	J. Barber & Co.	
French Chalk —		
Austria, £49	Harrison & Co.	
Glucose —		
Germany, 20 pks. 42 c.	Hicks, Nash & Co.	
Holland, 100	100	Prop. Sun Wf.
U. States, 50	287	Soundy & Sons
" 550	800	L. Norman & Co.
" 50	300	Page, Son & East
" 224	1,120	L. & I. D. Jt. Co.
France, 200	200	Barrett, Tagant & Co.
Glue —		
" £1,269		
Guano —		
Cape G. Hope, 12 t.	M. D. Co.	
Iron Oxide —		
Aus. Terr., 26 cks.	Hemingway & Co.	
Liquid Chlorine —		
Germany, 5 pks.	A. & M. Zimmermann	
Manganese —		
Germany, 30 c.	H. Lambert	
Manure —		
E. Indies, 50 t.	F. A. Hodgkinson & Co.	
Germany, 50	Humphrey & Co.	
E. Indies, 175	A. Hunter & Co.	
Methyl Alcohol —		
Germany, 8 dms.	P. Heydemann	
Mica —		
Canada, £80	W. M. Smith & Sons	
E. Indies, 40	"	
Calcutta, 48	"	
Naphthol —		
Holland, 11 pks.	Phillips & Graves	
Nitre —		
Chili, 8,267 t.	W. Montgomery & Co.	
Ochre —		
France, 22 pks.	C. Webster	
Holland, 30	Phillips & Graves	
Spain, 5 cks.	Allan Bros. & Co.	
France, 40	W. Harrison & Co.	
Pitch —		
N. Russia, 500 brls.	Linck, Moeller, & Co.	
France, 46	C. S. Lovell	

Germany, 10	H. Lambert	
Plumbago —		
Germany, 10 cks.	G. Mayor & Co.	
China, 5 cs.	W. M. Smith & Sons	
Belgium, 17 cks.	Fellows, Morton, & Co.	
Ceylon, 64	R. G. Hall & Co.	
Potash —		
France, 100 c.	Petri Bros.	
Potassium Carbonate —		
France, 11 c.	J. A. Reid	
" 104	A. J. Smith	
Potassium Permanganate —		
Germany, 20 pks.	L. & I. D. Jt. Co.	
Potassium Sulphate —		
Germany, 305 pks.	D. de Pass & Co.	
Pumice Stone —		
Italy, 8 t.	Stobbs, Wilson, & Co.	
" 19 c.	Bott & Nich's Whys. Co.	
Rosin —		
U. States, 750 brls.	F. & S. Chiesman & Co.	
Germany, 27 cks.	L. & I. Dk. Co.	
Salt —		
Portugal, 270 t.	Weston & Westall	
Saltpetre —		
Germany, 4 cks.	W. Balchin	
" 68	Petri Bros.	
Holland, 45	J. Hall & Son	
Germany, 50	L. & I. Dk. Co.	
" 30	"	
" 25	160 kgs. P. Hecker & Co.	
Soda Ash —		
Belgium, 4,640 c.	R. Waters	
Sodium Hyposulphite —		
Holland, 200 pks.	R. W. Greeff & Co.	
Germany, 184	F. Boehm	
Sodium Sulphide —		
Belgium, 16 pks.	Beresford & Co.	
Starch —		
Holland, 30 pks.	I. Barber & Co.	
" 30	A. G. Robinson & Co.	
" 20	A. Dunn	
Belgium, 119	F. Claydon & Co.	
" 161	Leach & Co.	
U. States, 125	Oswego Co.	
Belgium, 870	Sawyer, Sons, & Co.	
" 830	E. & T. Pink	
Holland, 229	T. H. Lee	
" 40	A. E. Piggott	
Germany, 60	Phillips & Graves	
Austria, 760	Horne & Co.	
" 50	R. G. Hall & Co.	
Stearine —		
Holland, 10 cks.	Van Geelkerken & Co.	
Belgium, 248 bgs.	H. Hill & Sons	
Holland, 26 bls.	Mordaunt Bros.	
" 26	16 cks. J. Owen	
France, 100 bgs.	Walbaum & Tosetti	
Sulphuric Acid —		
Holland, 20 pks.	H. Lorenz	
" 10	Sparrow & Co.	
Tar —		
N. Russia, 2,497 brls.	Linck, Moeller, & Co.	
" 100	Union Whv. Co.	
" 13	F. & A. Delcomyn	
Belgium, 2 cks.	W. H. Hindley, Abbey, & Co.	
Tartaric Acid —		
Germany, 2 pks.	Domcier & Co.	
Holland, 2	F. C. Devon & Co.	
" 30	Kirkpatrick & Co.	
" 31	B. & F. Wf. Co.	
Ultramarine —		
Holland, 14 cs.	Hernu, Peron, & Co.	
" 2 cks.	Phillips & Graves	
Germany, 30 pks.	J. Kitchen, Ltd.	
Varnish —		
Holland, 12 pks.	Copal Varnish Co.	
White Lead —		
Holland, 20 cks.	T. G. Clifford	
Germany, 14	Petri Bros.	
Belgium, 34	Colthurst & Harding	
France, 25	W. Harrison & Co.	
Holland, 10	Randall Bros.	
France, 18	J. Watt & Sons	
Belgium, 31	Robertson, Selley, & Co.	
Germany, 39	D. Storer & Sons	
" 20	Randall Bros.	
Wood Pulp —		
Sweden, 80 pks.	Page, Son, & Co.	

" 80	Christopher Andrews, & Co.	
Norway, 1,280	Johnsen & Jorgensen	
A. Terr., 52	W. Friedland	
Sweden, 3,500	Moreton Cox	
" 2,118	Tough & Henderson	
Holland, 64	Perkins & H.	
Germany, 245	O. Bee	
Sweden, 161	W. G. Taylor	
Holland, 1,600	E. J. & W. Gold	
Sweden, 100	"	
Zinc Oxide —		
Germany, 28 cks.	Beresford & Co.	

LIVERPOOL

Week ending October 17th.

Acetic Acid —		
Rotterdam, 17 brls.		
Albumen —		
Alexandretta, 3 cs.		
Karachi, 5		
Alkali —		
Hamburg, 5 cs.		
Asbestos —		
Hamburg, 2 bgs.		
St. John's, Nfld., 194		
Quebec, 5	P. Suber	
Barytes —		
Antwerp, 22 cks. 100 bgs.		
Rotterdam, 19		
Bone Ash —		
B. Ayres, 130 bgs.	H. B.	
" 258	W. B. Dick	
Bone Meal —		
Bombay, 2,344 bgs.		
Karachi, 160		
Boracic Acid —		
Leghorn, 30 cks.		
Castor Oil —		
Marseilles, 2 brls.	Kean & Co.	
Leghorn, 151	123 cs.	
Caustic Soda —		
Tampico, 1 dm.	S. Wf.	
Chemicals (otherwise unclassified)		
Teneriffe, 20 cs.		
Rotterdam, 5 brls.		
Cod Oil —		
St. John's, Nfld., 949 cks.	J. J. Law	
" 123	"	
Colours —		
Hamburg, 6 cs.		
Rotterdam, 1	5 brls.	
Cottonseed Oil —		
New York, 200 brls. 2 cs.		
Cream of Tartar —		
Oporto, 4 cks.	Bord	
Dyestuffs —		
Argols		
Oporto, 45 cks.	German B.	
Cutch		
Rangoon, 543 bgs.		
Divi Divi		
Hamburg, 525 bgs.		
Extracts		
Marseilles, 212 brls.		
Flume, 308	160 cks. Borden	
Halifax, 300	Oak Extract	
Flume, 300	"	
" 30	De Cien & De	
Frustic		
Trieste, 3 t.	Aug. Cren	
Gambier		
Singapore, 420 bgs.	E. J.	
" 689 brls.	Henderson	
Madder		
Marseilles, 1 brl.	Ancher	
Myrabolams		
Bombay, 4,923 bgs.	A. Ewart & Co.	
" 500	J. Wright & Co.	
" 280	F. D. Sme	
Orchella		
Lisbon, 55 brls.	A. Sme	
" 149	"	

Sulphur — Catania, Karachi,	40 bgs 151 brls. 20	
Talc — Trieste, Leghorn, Trieste,	10 bgs. 30 10	F. Parisi
Tallow — New York,	125 tcs.	
Tartar — Bordeaux,	13 cks.	
Tartaric Acid — Marseilles, Messina,	3 brls. 6 cks.	
Treacle — New York,	20 brls.	Maple Syrup Co.
Ultramarine — Bordeaux, Rotterdam,	5 cks. 2 cks.	
Yarnish — Boston, Rotterdam,	1 cs. 2 cks.	Musson & Co.
White Lead — Rotterdam,	57 cks.	
Wood Pulp — Rotterdam, Drammen,	191 brls. 3,330	H. Tyrer & Co.
Zinc Oxide — New York, Rotterdam,	130 brls. 100 cks.	
Zinc Ashes — Karachi,	8 cks.	
Zinc White — Rotterdam,	100 cks.	

MANCHESTER.

Week ending October 19th.

Acetic Acid — Rotterdam,	29 balloons	
Alkali — Rotterdam,	12 cks 1 cs.	
Alumina Sulphate — Rotterdam,	15 cks	
Ammonium Oxalate — Hamburg,	1 ck.	
Antimony Salts — Rotterdam,	10 cks.	
Barium Chloride — Rotterdam,	10 cks.	
Bone Ash — Rio Grande do Sul,	390 t. 251	Robinson & Hadwen Gordon & Co.
Chemicals (otherwise undescribed) — Rouen,	34 cks.	
Colours — Hamburg, Treport, Paris, Rotterdam,	7 cks. 1 cs. 44 5 17 31 41	108 brls.
Cottonseed Oil — Rotterdam,	100 brls.	
Dyestuffs — Alizarine Rotterdam, Extracts Treport, Rotterdam, Fiume, Valonia Patras,	55 cks. 1 cs. 6 cks. 11 cs. 4 60 1 cs.	
Farina — Hamburg,	120 bgs.	
Glucose — Rotterdam,	10 cks.	
Glue — Treport, Rotterdam,	20 cks. 76 bls. 60 bgs.	
Magnesium Chloride — Hamburg,	2 cks.	
Mineral White — Fiume,	200 bgs.	200 pks.
Oxalic Acid — Rotterdam,	12 cks.	
Pitch — Hamburg,	59 cks.	
Potash — Rouen,	9 dms.	
Saltpetre — Hamburg,	1 ck.	
Soda Crystals — Rouen,	6 cks.	

Sodium Nitrate — Rotterdam,	8 cks.	
Starch — Rotterdam, Fiume,	120 cs. 711 bgs.	
Stearine — Rotterdam,	7 bls.	
Sulphur — Hamburg,	2 cks.	
Tartaric Acid — Rotterdam,	10 cks.	
Tin Oxalate — Rotterdam,	6 cks.	
Ultramarine — Rotterdam,	1 cs.	
Waste Salt — Hamburg,	qty.	
Wood Pulp — Christiania, Skein, Rotterdam, Kotka, (Thro' Barrow)	3 051 bls. 100 95 445 cubic ftms. Dessen Brs.	
Wood Spirits — Hamburg,	4 dms.	
Zinc Oxide — Rotterdam,	20 brls.	
Zinc White — Rotterdam,	5 cks.	

HULL.

Week ending October 19th.

Acetic Acid — Rotterdam,	17 blns.	Hutchinson & Son
Aniline — Hamburg,	10 cks.	Sissons Brs & Co.
Barytes — Antwerp,	114 cks.	Bailey & Leatham
Bremen — Antwerp, Rotterdam,	37 11	G. Holmes & Co.
Bone Ash — M. Video,	217 t.	
Castor Oil — Antwerp,	8 brls.	Wilson, Sons, & Co., Ld.
Cellulose — Hamburg,	30 bls.	Wilson, Sons, & Co., Ld.
Chemicals (otherwise undescribed) — Bremen, Stettin,	2 kgs. 1 ck.	Veltmann & Co. Patent Litho Zinc Plate Co.
Antwerp — Hamburg, Rotterdam,	45 pks. 3 cks. 3 cs.	Wilson, Sons, & Co., Ld. W. & C. L. Ringrose
Cod Oil — Drontheim,	48 brls.	Wilson, Sons, & Co., Ld.
Bergen — Colours— Stettin, Antwerp,	63 12 cks. 23	Bailey & Leatham Wilson, Sons, & Co., Ld.
Bremen — Danzig,	10 cks.	Veltmann & Co.
Amsterdam — Rotterdam, Antwerp, Hamburg,	4 4 3	J. Good & Sons Hutchinson & Son
Rotterdam — Cryolite— Copenhagen,	1 4 cks.	5 cs. G. Malcolm & Son Wilson, Sons, & Co., Ld.
Dextrine — Stettin,	170 bgs.	Wilson, Sons, & Co., Ld.
Dyestuffs — Alizarine Rotterdam,	99 pks. 5 brls.	W. & C. L. Ringrose
Valonia — Sihyrna,	50 t.	

Farina — Stettin,	100 bgs.	Wilson, Sons, & Co., Ld.
Harlingen — Ghent,	500 200 cs.	"
Glucose — Rotterdam,	30 bgs.	Hutchinson & Son
Stettin — 700		Wilson, Sons, & Co., Ld.
Glue — Rouen,	19 cks.	Rawson & Robinson
Rotterdam — Dunkirk,	2 cs. 44 cks.	Hutchinson & Son
Antwerp — Hamburg,	5 bls. 28 bgs.	Wilson, Sons, & Co., Ld.
Lactic Acid — Copenhagen,	1 cs.	Wilson, Sons, & Co., Ld.
Ochre — Rouen,	14 cks.	
Potash — Dunkirk,	22 dms.	Wilson, Sons, & Co., Ld.
Rosin — Bordeaux,	6 cks.	
Saltpetre — Antwerp,	135 bgs.	Wilson, Sons, & Co., Ld.
Starch — Bremen, Rotterdam,	3 326 cs. 20	Veltmann & Co. Hutchinson & Son
Stearine — Antwerp,	76 bgs.	Wilson, Sons, & Co., Ld.
Tallow — St. Petersburg	50 cks.	
Tar — Uleaborg,	1,200 brls. 350 hf. brls.	J. M. Hamilton & Co.
Antwerp — Treacle— Boston,	3 brls. 1,125 brls.	Wilson, Sons, & Co., Ld.
New York — Waste Salt— Hamburg,	140 qty.	" Bailey & Leatham
White Lead — Rotterdam,	37 cks.	W. & C. L. Ringrose
Wolfram — Hamburg,	2 10 cs.	Hutchinson & Son Wilson, Sons, & Co., Ld.
Wood Pulp — Helsingfors, Hamburg,	10 bls. 15	Furley & Co. Bailey & Leatham
Zinc Oxide — Antwerp,	75 cks.	Bailey & Leatham
Zinc White — Antwerp,	23 cks.	Bailey & Leatham

GLASGOW.

Week ending October 24th.

Acetic Acid — Rotterdam,	10 blns.	J. Rankine & Son
Alkali — Rotterdam,	24 dms.	J. Rankine & Son
Barytes — Rotterdam,	83 cks.	
Bone Meal — Calcutta,	2,238 bgs.	
Castor Oil — Marseilles,	84 cks. 29 brls.	
Chemicals (otherwise undescribed) — Hamburg,	3 cs.	
Chrome Ore — Macri,	2,200 t.	J. & J. White
Colours — Rotterdam,	8 cks.	J. Rankine & Son
Danzig — Hamburg,	32 6	74 pkgs. 5 cs. 26 bgs.

Cream of Tartar — Barcelona, 10 cks. Tarragona, 12 5 pkgs. Marseilles, 12	Soap — Fiume, 143 cs. Rotterdam, 1 bl. J. Rankine & Son	Barium — Rotterdam, 300 bgs. Tyne S. S. Co.	Aniline — Ghent, 11 cks.
Dyestuffs — Alizarine Rotterdam, 15 cks. 10 brls. J. Rankine & Son	Starch — Fiume, 20 bgs. William Stirling & Sons	Barytes — Rotterdam, 13 cks. Tyne S. S. Co.	Antimony — Boulogne, 3 cks.
Argols, 45 pkgs.	Rotterdam, 25 20 cs. J. Rankine & Son	Carbon Black — New York, 50 brls. Furness, Withy, & Co.	Barytes — Antwerp, 33 cks.
Bordeaux, 49 cks.	Stearine — Amsterdam, 75 bgs.	Farina — Hamburg, 40 bgs. Tyne S. S. Co.	Caoutchouc — Boulogne, 6 cks.
Cutch, 800 bxs.	Sulphur — Girgenti, qty. T. Laurie	Glucose — New York, 150 brls. Furness, Withy, & Co.	Dyestuffs — Alizarine Rotterdam, 16 brls.
Extracts Fiume, 200 brls. G. Dickson	Sulphur Ore — Huelva, 1,820 t. Rio Tinto Co.	Glue — Antwerp, 1 ble. Tyne S. S. Co.	Madder Rotterdam, 9 cks.
Valonia Smyrna, 195 t. J. Buntin & Co.	Tar — Archangel, 1,616 brls.	Kieselguhr — Bergen, 99 bgs.	Dyestuffs (otherwise undecorated) Rotterdam, 75 cks. 19 cs.
French Chalk — Fiume, 100 bgs.	Tartar — Oporto, 9 cks. Bordeaux, 30	Limestone — Antwerp, 5 crts. Tyne S. S. Co.	Boulogne , 47 6 9 pkgs.
Glue — Fiume, 100 bgs. J. Rankine & Son	Ultramarine — Rotterdam, 5 cs. J. Rankine & Son	Minium — Rotterdam, 15 cks. Tyne S. S. Co.	Potaash — Rotterdam, 12 cks.
Guano — Dyrafjord, 2,310 bgs.	Varnish — New York, 5 brls.	Pyrites — Huelva, 2,062 t. Scott Bros.	Antwerp , 4 19 dms.
Iron Oxide — Montreal, 41 brls. 168 kgs.	White Lead — Rotterdam, 38 cks. J. Rankine & Son	Rosin — New York, 1,668 brls. Furness, Withy, & Co.	Dunkirk , 2 20
Lead Acetate — Hamburg, 20 cks.	Wood Pulp — Fiume, 724 bls. Christiania, 1,906	Starch — Rotterdam, 80 cs. Tyne S. S. Co.	Saltpetre — Rotterdam, 105 bgs.
Stettin , 9	Zinc Ashes — Rotterdam, 1 ck. J. Rankine & Son	Yarnish — New York, 1 cs. Furness, Withy, & Co.	Soda — Ghent, 12 cks.
Ochre — Marseilles, 76 cks.	TYNE. Week ending October 19th.	Waste Salt — Hamburg, 320 t.	Sodium Silicate — Rotterdam, 3 cks.
Paraffin Wax — New York, 243 brls.	Acetic Acid — Rotterdam, 3 cks. Tyne S. S. Co.	Wood Pulp — Christiania, 80 bls.	Waste Salt — Hamburg, 140 cks. 50 t.
Pitch — Archangel, 500 brls.	Alum Earth — Hamburg, 36 cks. Tyne S. S. Co.	Zinc White — Rotterdam, 100 cs. Tyne S. S. Co.	GRIMSBY. Week ending October 19th.
Potaash — Rotterdam, 28 cks. J. Rankine & Son		Alkali — Calais, 28 cks.	Caoutchouc — Hamburg, 4 cs. 1 pke.
Hamburg , 21		GOOLE. Week ending October 16th.	Rotterdam , 4
Pyrites — Huelva, 2,138 t. Tharsis Co.			Chemicals (otherwise undecorated) Hamburg, 6 cs.
Rosin — New York, 378 brls.			Dyes — Hamburg, 4 cks. 32 pkgs.
			Saltpetre — Antwerp, 170 bgs.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON. Week ending October 23rd.	Borax — Santos, 12 c. £13 Melbourne, 20 pkgs. 20 Sydney, 10 21 Algoa Bay, 1 5 119 Lyttelton, 10 10	Boston , 13 pkgs. 117	Pyridine Bases Hamburg, 9 drs. £20
Acids — Colombo, 5 cs. £26 Natal, 20 37 Santos, 9 pkgs. 2	Carbonic Acid — Lyttelton, 1 t. 7 c. £34	Aniline Dyes Brisbane, 1 cs. £21 Sydney, 5 23 Melbourne, 2 36	Tar Helsingfors, 800 brls. £46
Ammonia — Geelong, 6 c. £34	Carbonic Acid Gas — Guernsey, 30 tubes £11 Canaries, 1 cs. 10	Aniline Oil Dunkirk, 5 drs. £130	Santos , 48 28 Melbourne, 50 drs. 28 Boston, 250 170 N. Orleans, 598 cks. 140 Algoa Bay, 580 27
Ammonia (Liquid) — Rio de Janeiro, 10 pkgs. £26 Natal, 1 t. 2 c. 33	Caustic Soda — Mauritius, 5 c. £47 Philadelphia, 20 t. 212 Sydney, 2 6 25 Natal, 5 18 E. London, 13 21 Algoa Bay, 16 6 398	Anthracene Rotterdam, 73 cks. £346	Toluol Philadelphia, 10 drs. £10 Boulogne, 32 cks. 10 Rotterdam, 20 27
Ammonium Carbonate — Rouen, 5 t. 10 c. £156 Melbourne, 1 20 cs. 69 B. Ayres, 3 105 Cannes, 65 pkgs. 153 Bremen, 9 41 St. Petersburg, 2 10 77 Rotterdam, 55 cks. 165	Chemicals (otherwise undec.) — Melbourne, 5 t. £260 Sydney, 1 5 cs. 11 B. Ayres, 2 10 44 M. Video, 32 cs. 49 Shanghai, 1 dm. 8 30 Calcutta, 8 47 Santander, 1 45 Philadelphia, 2 11 41 Algoa Bay, 11 19 Rotterdam, 5 2 67	Benzol Stettin, 61 cks. £140 Antwerp, 21 brls. 60 Trepport, 20 puns. 129 Rotterdam, 75 20 drs. 40 631 15 pps. 173 Hamburg, 75	Coal Products (otherwise undec.) — Christiania, 50 fms. £10 Algoa Bay, 850 des. 21 Napier, 140 140
Ammonium Chloride — Batoum, 2 t. £76 Samsoun, 10 c. 18 B. Ayres, 5 10	Citric Acid — Rotterdam, 10 c. £65 Copenhagen, 10 68 Danzig, 3 cks. 34 Amsterdam, 10 kgs. 60 Montreal, 11 61 Hamburg, 6 10 295 B. Ayres, 2 11 Melbourne, 1 5 163	Carbolic Acid New York, 25 cks. £142 Hamburg, 192 1,231 Newport News, 50 143	Coal Tar Dyes Boston, 4 pkgs. 1 cs. £173
Ammonium Sulphate — Natal, 30 t. £272 Rouen, 60 537 Valencia, 100 1,000 Philadelphia, 72 672		Creosote Huelva, 600 brls. £244 New York, 600 cks. 258 N. Orleans, 4,198 1,955	Copper Sulphate — Antwerp, 5 t. 4 c. £20 Mauritius, 12 27 Paris, 5 27 Boston, 25 41 Algoa Bay, 9 41
Anhydrous Ammonia — Algoa Bay, 1 t. 5 c. £103		Creosote Salts Gothenburg, 690 bgs. £199	Copperas — Constantinople, 12 t. 10 c. £40
Arsenic — Melbourne, 5 t. £78		Naphtha Paris, 25 brls. £60	Cream of Tartar — Brisbane, 2 t. 15 c. £25 Melbourne, 2 25 Sydney, 2 25 Fremantle, 2 25 Dunedin, 2 25 Auckland, 2 25 Algoa Bay, 2 25
Barium Chlorate — New York, 5 c. £23		Naphthaline Hamburg, 16 cks. 78 bgs. £122	Disinfectants — Alexandria, 2 cks. £20 Hamburg, 25 25 drs. 25 Melbourne, 10 t. 12 c. 20 cs. 20 Hong Kong, 15 cks. 20 Cape Town, 43 pkgs. 20
Barium Nitrate — New York, 2 t. £37		Pitch New York, 2,678 bgs. 300 brls. £597 Dunkirk, 475 t. 950 Shanghai, 24 cks. 23 Helsingfors, 80 t. 152 Boston, 1,250 715 Huelva, 870 1,653 N. Orleans, 1,550 cks. 820 Antwerp, 1,450 t. 2,688 Dortmund, 500 940 Calcutta, 25 25 32	
Bisulphite of Lime — Algoa Bay, 1 t. 18 c. £20	Coal Products — Alizarine Bombay, 125 kgs. £392 New York, 50 cks. 607 Montreal, 3 44		
Bleaching Powder — Boca, 1 t. 15 c. £11 Algoa Bay, 1 13			

Bay,	5 t.	£50
ochloric Acid—	6 cs.	£11
Sulphate—	13 pkgs.	£26
antle,	1 t.	£47
re—	50 t.	£100
aux,	45	295
res,	1	6 c.
ria,	15	35
ries,	100	50
ies,	29	800
ies,	5	230
ies,	1	10
tic Acid—	18 carboys	£13
Acid—	20 carboys	£40
ow,	4 cs.	11
Acid—	7 c.	£12
horus—	10 cs.	£97
h—	12 c.	£9
h Crystals—	3 cs.	£36
ium Bichromate—	2 t. 16 c.	£125
ica,	6	14
ium Chlorate—	5 t. 8 c.	£220
ium Prussiate—	1 ck.	£19
lic Acid—	5 c.	£49
tre—	2 t. 13 c.	£63
e Janeiro,	2	15
n,	4	9
y,	2	10
so,	2	9
urne,	4	15
church,	10	12
Bay,	4	3
Dip—	3 t. 1 c.	£100
gton,	5	7
Arenas,	37 cks. 220 cs	205 kgs
oks.	1,262	
urne,	15 c.	350
Bay,	9 t. 2	306
res,	145	12
res,	1	1
zabeth,	5	12
zabeth,	5	12
ah—	2 t.	£14
dam,	1 t. 8 c.	£10
in,	5	20
ystals—	21 t. 16 c.	£43
ste,	9	30
Bay,	9	30
i Bicarbonate—	8 c.	£5
i Silicate—	4 t. 3 c.	£16
i Tartrate—	12 c.	£32
um Carbonate—	10 c.	£17
um Nitrate—	3 t. 2 c.	£73
r—	24 kgs.	£12
Bay,	2 t.	15
r Dioxide—	10 cyldrs.	£100
ric Acid—	20 cs.	£16
Bay,	3 t. 11 c.	15
ore,	2	10
Bay,	25 cs.	19
ic Acid—	5 c.	£23
me,	50 pks. 1 t.	472
es,	2	11
ile,	3	14
hurch,	5	30
gton,	4	16
ad,	3	12
ad,	11	28

LIVERPOOL.

Week ending October 23rd.

Acetic Acid—	3 t. 10 c.	£62
Alum—	1 t. 4 c.	£6
Bahia,	19	9
Santos,	4	5
New York,	2	2
M. Video,	2	15
Lagos,	1	7
Tunis,	4	7
Cape Town,	3	6
Malaga,	2	5
Montreal,	9	10
Sydney,	20	100
San Francisco,	1	6
Melbourne,	15	18
Galatz,	8	3
Aluminous Cake—	8 t. 15 c.	£35
Melbourne,	17 c.	£126
Ammonia (Liquid)—	2 c. 3 q.	£7
Ammonium Carbonate—	7	13
Pimental,	12	3
Rotterdam,	10	17
Stockholm,	10 c.	£19
Corunna,	2 t.	74
Ammonium Chloride—	11	1 q
Melbourne,	3	5
Galatz,	4	1
Palermo,	3	9
Antwerp,	6 c.	£13
Vancouver City,	49 t. 13 c.	£566
Ammonium Nitrate—	4	14
Brisbane,	4	18
Ammonium Sulphate—	20	8
Philadelphia,	10	3
Colombo,	2	21
Valencia,	39	19
Barcelona,	25	291
Carthage, Sp.,	59	16
Las Palmas,	100	19
Boston,	3 t. 10 c.	2 q. £56
Leghorn,	2 cs.	
Honolulu,	3 bls.	
Arsenic—	1	
San Francisco,	9 cks.	
Asbestos—	27 cks.	
Batavia,	581	
B. Ayres,	3 bris.	
Cape Town,	203	
Barytes—	68	
Halifax,	47	
Bleaching Powder—	63	
Bilbao,	25	
Boston,	40	
B. Ayres,	163	
Genoa,	472	
Ghent,	10	
Leghorn,	75	
Lisbon,	28	
Montreal,	12	
New York,	6 c. 3 q.	£11
Rouen,	10	16
San Francisco,	2 q. £250	
San Sebastian,	2 q. £250	
Vigo,	2 q. £250	
Boric Acid—	28 t.	2 q. £250
Montreal,	10 t.	£200
Adelaide,	1	10 c.
Borate of Lime—	16	13
Fiume,	3 t. 2 q.	335
Borax—	3 t. 2	642
Antwerp,	19	3
Constantinople,	8	2
Montreal,	12	3
Hamburg,	9	9
Genoa,	14	14
Rotterdam,	1	4
B. Ayres,	5	3
M. Video,	104	
Galatz,	6 c. 3 q.	£11
Vera Cruz,	10	16
Stockholm,	2 q. £250	
Calced Magnesia—	1 c.	£26
B. Ayres,	2 t. 13 c.	£6
Ca'cium Chloride—	2	5
M. Video,	15	1
New York,	34	
Odessa,	5 c.	£14
Carbolic Acid—	17 t. 3	225
Hamburg,	5	5
Rotterdam,	19	3 q.
New York,	1	5
Santander,	2	65
Genoa,	4	11
Odessa,		

Caustic Potash—

Sydney,	1 t. 10 c.	£37
Caustic Soda—	28 dms.	
Alexandria,	30	
Amsterdam,	70	
Bahia,	350	25 brls. 87 cks.
Barcelona,	150	
Boston,	100	
B. Ayres,	37	
Calcutta,	20	
Ceara,	16	
Cuidad Bolivar,	30	
Dunkirk,	35	
Fiume,	1,118	
Galatz,	160	
Genoa,	20	
Gibraltar,	45	10 bxs.
Hamburg,	154	
Hio,	30	
Hong Kong,	63	
Ibrail,	67	
Leghorn,	130	
Lisbon,	81	
Marseilles,	25	
Messina,	50	
Mollendo,	380	
Montreal,	43	
Naples,	165	
N. Orleans,	55	10
Newport News,	850	
New York,	40	
Nuevitas,	8	
Oporto,	15	
Pamhyba,	20	
Pernambuco,	50	
Philadelphia,	60	
Rouen,	380	
San Francisco,	50	
San Sebastian,	35	
Santo Domingo,	50	
Santos,	43	
Savanna,	400	
Seville,	255	50
Sourabaya,	18	
Sydney,	130	
Tampico,	240	
Tripoli,	9	
Valparaiso,	20	
Vera Cruz,	50	
Victoria, V. I.,	25	
Chemicals (otherwise undescribed)	1 t.	£33
Veile,	16 c.	29
Oporto,	2	4
Stettin,	3	111
Yokohama,	5	5
New York,	19 cks.	161
Santos,	13	3
Philadelphia,	1	3
Genoa,	13	25
Hamburg,	43	1
Calcutta,	1	1 q.
Christiania,	2	8
Toronto,	1	19
Boston,	6	4
China Clay—	103 cks.	
Baltimore,	1,001	
Boston,	21 t.	5 c.
Calcutta,	5	
Genoa,	495	
Montreal,	30 cks.	
Rio de Janeiro,	100	
San Francisco,	508 bgs.	
Zarate,	3 c.	£3
Cape Town,	15	10
Shanghai,	1 ck.	
B. Ayres,	1 ck.	
Chloroform—	1 dm.	
Bordeaux,	1	
Gothenburg,	5	
Newport News,	1	
St. Nazaire,	20 cks.	
Aniline Salts	28	
Genoa,	5 cks.	
St. Nazaire,	2 cks.	
Napthaline	20 brls.	
New York,	100	
Pitch	25 kgs.	
Rouen,	60	
Tar	25	
Galatz,	28 cks.	
Philadelphia,	14 t.	£21
Savanna,	3	10 c.
Sierra Leone,	3	1 q.
Sourabaya,	59	12
Tar Salts	8	104
New York,	7	1
Copperas—	1	2
Alexandria,	14 t.	£21
Talcabano,	3	10 c.
San Francisco,	3	1 q.
M. Video,	59	12
Valparaiso,	7	1

Copper Sulphate—

Carthage, Spn,	9 c.	£60
Volo,	10	8
Accra,	10	9
Santos,	1 t.	12
Naples,	4	19
Adelaide,	2	10
Paris,	10	163
Sydney,	5	81
Alexandria,	10	7
Barcelona,	4	18
Seville,	1	17
Rouen,	26	5
Victoria, B.C.,	1	19
Bombay,	1	5
Nantes,	33	17
Havana,	1	11
M. Video,	14	1
Disinfectants—	1 t. 3 c.	£6
Bombay,	55 t. 10 c.	1 q. £451
Dried Blood—	10 cks.	
Nantes,	14 cks.	
Farina—	100 bxs.	
Rio de Janeiro,	1 cs.	
Gelstine—	20 bgs.	
Boston,	40 tins	
New York,	10 cks.	
Glucose—	2	5 c.
Malta,	2	13
Glue—	2 t. 3 c.	£66
Boston,	15 c.	£4
Kingston, Jam.,	2	
Shanghai,	20 t.	£180
Guano—	15 c.	£4
Malaga,	10 t.	£15
Gypsum—	2	13
Boston,	2	13
Iron Oxide—	2 t. 3 c.	£66
Rosario,	10 t.	£15
Montreal,	2	5 c.
Gijon,	2	13
Lead Acetate—	2 t. 3 c.	£66
Calcutta,	5 cs.	
Magnesia—	40	
Barcelona,	20 ca.	
Havre,	52 t. 14 c.	2 q. £146
Magnesium Sulphate—	50	1
Honolulu,	23	5
Manure—	19	10
Bordeaux,	2	172
Rocheport,	1 t. 10 c.	£236
Charlotte Town,	1 t. 8 c.	£60
Valencia,	1	12
Metallic Sodium—	1 t. 10 c.	£236
Rotterdam,	1 t. 8 c.	£60
Muriatic Acid—	1	12
Santos,	15 cks.	
Pernambuco,	15 cks.	
Ochre—	5 t. 5 c.	£148
New York,	36 dms.	
Oxalic Acid—	4 kgs. 5	
Marseilles,	16	
Paint—	10	
Alexandria,	8 cks.	
Amsterdam,	1	
Antwerp,	1	
Barranquilla,	1	
Bombay,	1	
Bordeaux,	1	
B. Ayres,	1	
Calcutta,	1	
Cardenas,	1	
Cartagena N.G.,	1	
Colombo,	1	
Hamburg,	1	
Havana,	1	
Honolulu,	1	
Lagos,	1	
Mayaguez,	1	
N. Orleans,	1	
N. York,	1	
Old Calabar,	1	
Pimental,	1	
Rio de Janeiro,	1	
St. John's, Nfld.,	1	
St. Domingo,	1	
Salt Pond,	1	
Sanchez,	1	
Sierra Leone,	1	
Singapore,	1	
Tampico,	1	
Trieste,	1	
Valparaiso,	1	
Vera Cruz,	1	
Victoria (Bzl.),	1	

Painters' Colours—

Bathurst,	10 kgs.	
Bombay,	12 cks	332 61 cs.
Boston,		1
B. Ayres,		1
Calcutta,	50 dms	5
Gijon,		1
Halifax,	2	
Hamburg,		140
Kurrachee,	7	
La Guayra,		135
Lisbon,	46 brls.	8
Melbourne,	14	85
Montreal,	18	22 pkgs.
New York,	12	10
Para,	32	116 7 cs.
Pernambuco,	32	
Philadelphia,		7
Rio de Janeiro,	7	105 brls.
San Juan,	3	22 pkgs.
Santos,		3 cs.
Savannah,	100	1
Sydney,	5	60
Teneriffe,	6	
Trinidad,		275 70
Valparaiso,		

Paraffin Wax—

Salonica,	10 cs.	
Syria,	2	

Phosphorus—

Hiogo,	1 t.	£250
San Luis,	6 c.	65
Tampico,	1	5 260

Potassium Bichromate—

Santos,	10 c.	£20
St. Nazaire,	3	6
Pineus,	2 t.	10 20

Potassium Carbonate—

Las Palmas,	11 c.	£15
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Potassium Chlorate—

Rio de Janeiro,	1 t.	£39
Danzig,	1	40
Genoa,	1	40
Leghorn,	10 c.	18
Palermo,	5	9
Copenhagen,	10	18
Ghent,	1	10 50
Bilbao,	5	200
E. London,	10	24
Cape Town,	1	38
Trieste,	10	20
Hiogo,	20	751
New York,	25	1,037
Hamburg,	15	30
Gothenburg,	7	332
Yokohama,	5	235
San Luis,	5	10

Potassium Prussiate—

St. Nazaire,	1 t.	10 c.	3 q.	£80
Bombay,	5			18

Potassium Sulphate—

Honolulu,	7 t.	£65
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Salt—

Accra,	5 t.	
Antwerp,	577	10 c.
Assinee,	25	
Axim,	25	
Baltimore,	785	18
Barbadoes,	48	
Bonny,	17	5
Boston,	95	
B. Ayres,	3	10
Calcutta,	2,860	
C. C. Castle,	50	
Cape Lahou,	55	
Charlotte Town,	950	18
Durban,	600	
Ghent,	145	
Gd. Bassam,	17	7 1/4
Iceland,	90	
Isles de Los,	50	
Lagos,	265	
Lahou,	12	10
Lucea,	1	14
Manaos,	24	15
Melbourne,	75	
Mobile,	2,050	
Monrovia,	10	
N. Orleans,	1,250	2
Newport News,	200	
New York,	590	
Old Calabar,	241	
Opobo,		125 pkgs.
Para,	13	
Pensacola,	220	
Pt. Natal,	440	
Rangoon,	389	
Rio de Janeiro,		50 cs.
Rio Nunez,	296	5
Rosario,	17	0
Rotterdam,	505	
Rouen,	20	12
San Francisco,	597	3
Santos,	1	18

Savannah,	400	
Shanghai,	1	
Sierra Leone,	55	10
Sinoe,	12	10
Sydney,	39	5
Talcahuano,	706	9
Tuborg,	978	
Valparaiso,	12	

Salt Cake—

Boston,	20 t.	3 q.	£35
Philadelphia,	60	10 c.	78
Baltimore,	121	10	167
Antwerp,	71	2	82

Saltpetre—

Savannah,	3
Carthage, N.G.,	
Cabedello,	1
Pernambuco,	1
Larnaca,	2
Victoria, B. C.,	
Vera Cruz,	
Para,	4
Vancouver City,	
San Francisco,	8

Sheep Dip—

Durban,	170
B. Ayres,	22
Punta Arenas,	5

Soap—

Accra,	40 bxs.	
Algoa Bay,	2,738	73 cs. 40 bdis.
Amsterdam,	175	
Antwerp,	1,800	
Barbadoes,	750	
Bombay,	680	72
Boston,	1 ck.	1,000
B. Ayres,	20	
Calcutta,	28	250
Cape Town,	1,101	4
Colon,	50	
Constantinople,	50	
Curacao,	136	
Delagoa Bay,	270	
E. London,	1,084	
Galata,	50	
Genoa,	200	
Gibraltar,	250	
Hong Kong,	500	
Iquique,	10	
Kingston, Ja.,	1,820	2
Kurrachee,	13	10
Lagos,	108	
Las Palmas,	1,270	
Leghorn,	10	
Malta,	100	
Montreal,	1,000	
New York,	1,350	1,052 8 cks.
Palma,	704	
Para,	200	
Philadelphia,	1,502	20
Piraeus,	90	
Pt. Elizabeth,	1,652	
Pt. Natal,	4,903	3
Quebec,	2	
Rangoon,	700	33
Rio de Janeiro,	1	
Rotterdam,	744	
Sandy Point,	4	
St. John's, Nfld.,	59	
St. Tho's, W.I.,	900	
St. Lucia,	68	
San Juan,	50	
Sapeli,	100	
Savannah,	12	
Seville,	2	
Shanghai,	2,100	
Sierra Leone,	2	
Singapore,	200	
Teneriffe,	279	
Trinidad,	300	
Valparaiso,	1	
Vera Cruz,	1	
Victoria, V.I.,	5	
Warri,	100	

Soda Alkali—

Alicante,	35 brls.	
Barcelona,	140	
Bilbao,	50	
Genoa,	135	
Lisbon,	100	
London,	40	
Naples,	10	
Seville,	125	
Vancouver, B. C.,	50	

Soda Ash—

Amsterdam,	18 cks.	
Antwerp,	1,000 bgs.	20 brls.
Bahia,		
Baltimore,	1,200	156
Boston,	1,000	205 112 tcs.
B. Ayres,	50	
Cadiz,	27	
Genoa,	100	
Ghent,	150	
Gothenburg,	25	

Hamburg,	280	35	26
Hong Kong,			
Libao,		20	
Montreal,	100	3	110
New York,	2,064	19	
Ne'port News,	23 1/2	42	307
Oporto,		44	
Philadelphia,	3 252	120	360
Rio de Janeiro,		25	100 brls.
San Francisco,		37	
Salonica,			80
Santos,			10
Sourabaya,		10	
Sydney, N.S.W.,		201	20
Varna,		50	
Vera Cruz,			18

Soda Crystals—

Bombay,	470 brls.	
B. Ayres,	10	100 kgs.
Montreal,	185	650 50 cks.
New York,		400
Philadelphia,		459
Pt. Said,	20	
Sydney,		67
Valparaiso,	350	

Sodium Arseniate—

Lisbon,	2 cks.	
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Sodium Bicarbonate—

Aalborg,	2 cks.	
Algoa Bay,	40 kgs.	50 bgs.
Barcelona,	100	
Batavia,	20	
Bilbao,	50	
Bombay,	161	13 25
Bordeaux,	95	8
B. Ayres,	25 brls.	50 170
Calcutta,	250	
Catania,	63	4
Copenhagen,	70	15
Gefle,	4	
Genoa,	100	
Hamburg,	20	
Madras,	10	
Malta,	14	
Marseilles,	50	
Melbourne,	400	
M. Video,	50	15
Montreal,	890	20 200
N. Orleans,	850	559
New York,		550
Paris,	100	
Rosario,		250
Rotterdam,	50	
Rouen,	10	7 brls.
Santos,	100	
Singapore,	50	
Sydney,	800	
Trieste,	30	
Trinidad,	24	
Valparaiso,	200	

Sodium Chlorate—

St. Petersburg,	65 kgs.	
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Sodium Silicate—

Alicante,	20 cks.	
Bilbao,	32	
Calcutta,	10	
Genoa,	30	
Havre,		15 brls.
Montreal,	10	
Oporto,	20	
San Sebastian,	17	
Seville,	130	
Smyrna,	25	
Tarragona,	10	
Tripoli,	12	
Vigo,		15
Yokohama,	32	

Sodium Sulphate—

Boston,	200 bgs.	
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Starch—

Cape Town,	1 cs.	
Rio de Janeiro,	7 ks.	

Sulphur—

Philadelphia,	125 t.	2 c.	£407
Boston,	300	6	976
Ceara,	19	3 q.	6
B. Ayres,	1	2	1 6
Para,	1	10	15
Halifax,	2		10

Superphosphates—

Las Palmas,	10 t.	£31
Bordeaux,	14	15 c. 1 q. 26
Nantes,	105	5 1 227

Tin Crystals—

Trinidad,	2 t.	13 c.	2 q.	£168
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Treacle—

Accra,	8 cs.	
Amsterdam,	25 brls.	
Antwerp,	10	25 hf.-pns.
Brussels,	10	
Copenhagen,	10	
Ghent,		45
Gothenburg,	10	
Hamburg,	30	
Norrkoping,	99	

Rotterdam,		29 cks.
Sundsvall,	85	
Stockholm,		175
Terneuzen,	20	40 20
	3 t.	4 c.

Ultramarine—

Yokohama,	16 brls.	
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Varnish—

Lagos,	4 cs.	2 dms.
New York,	2	
Piraeus,	2	1 ck.
Rotterdam,		

White Lead—

Bahia,	50 kgs.	
B. Ayres,		112 cks.
Old Calabar,	20	

Whiting—

Santos,	100 brls.	
Talcahuano,	50	
Valparaiso,	100	

MANCHESTER

Week ending October 23rd.

Alkali—

Jaffa,	49 dms.	
Abo,	100 cks.	
Valencia,	200	

Chemicals (otherwise undescr—)

Hamburg,	2 kgs.	
Mersyne,	20 brls.	
Rotterdam,		5 dms.
Tripoli,	30	
Antwerp,	1 ck.	
Barcelona,	8	
Bombay,	8	
Valencia,	6	

Coal Tar Dyes—

Rotterdam,	1 cs.	
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Coal Tar Products (otherwise undescr—)

Alexandria,	8 brls.	
Antwerp,	9 dms.	
Rotterdam,	55	73 cks.
Barcelona,	26	1 tin
St. Petersburg,	20	10 103 lbs.
	67 pns.	

Dyestuffs (otherwise undescr—)

Rotterdam,	25 cks.	
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Glue—

Rotterdam,	10 cks.	
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Linseed Oil—

Beyrout,	1 ck.	
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Paint—

Beyrout,	2 cks.	
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Pitch—

Antwerp,	455 t.	
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Soap—

Hamburg,	2 pns.	
Malta,	6 bxs.	1 cs.
Tantal,		25

2, 1895.

ors,	1		
en,	20	16	80
erg,	21		
ek,	10		
	42		
am,		15	
rsburg,	35		
	20	1	
E,	14		2
	26		
	7		10
eed Oil—			
	103 c.		
lam,	436		
ria,	27		
nia,	35		
rg,	804		
am,	500		
ts (otherwise undescribed)			
nia,	12 cks.	60 bgs.	
	2	1 cs.	161
		2 pks.	
ork,	54 cks.		
Oil—			
dam,	51 c.		
ria,	43		
	56		
nia,	1,017		
msand,	31		
msund,	17		
rg,	88		
lam,	100		
ax,	173 bgs.		
rg,	23 cks.		
ra' Colours—			
rp,	44 cks.	1 cs.	
dam,	3		2 pks.
ux,	1		3
hagen,	8		
ania,	13	1	55
	44 dms.		
ansand,			75
ntinople,	110		
rk,	1		
sburg,			10
	9		
gfors,		1	
urg,	46		1
gen,	8		
sberg,	15		
ork,	158	100	105 kgs.
	50		
dam,	7		
	10		1 pk.
rsburg,	33		
ger,	1		
	6		
rg,	11	1	
horus—			
rg,	10 cs.		
ork,	25		
rp,	180 t.		
			130 t.
ania,	2 cs.		
urg,	3 pks.		
hagen,	105 cs.		
g—			233 cks.
rdam,	5 cks.		
n,	5		
il—			8 cks.
le—			10 cks.
ntine—			100 dms.
ndria,			
sh—			1 ck.
stania,			1 cs.
enburg,			
burg,	3		
rdam,	3		
in,	3		

GLASGOW.

Week ending October 24th.

Cake—

edin, 9 t. 6½ c.
onium Carbonate—
da, 1 t. 9½ c.

Ammonium Sulphate—

Barbadoes, 7 t. 10 c.
Philadelphia, 12 12½
U.S.A., 61 5
Valencia, 304 10

Asbestos—

Bombay, £65

Bleaching Powder—

Canada, 11 t. 16¾ c.

Melbourne, 7 9½

Borax—

Canada, 13 t. 7¾ c.

Castor Oil—

Adelaide, £63

Caustic Soda—

Canada, 20 t. 12 c.

Dunedin, 9

Coal Products—

Benzine

Bordeaux, £70

Carbolic Acid

Christiania, £18

Rotterdam, 17 t.

Creosote Oil

Christiania, £11

Russia, 50

Naphtha

Antwerp, 14 t. 10 c.

Wellington, £20

Pitch

Cette, £2,236. 108.

Antwerp, 100 t.

Dieppe, 285

Toronto, £48

Tar

Bombay, £22

Christiania, 70 brls.

Russia, 97

Turkey, 148

Calcutta, 238

Cod Oil—

Melbourne, £28

Copperas—

Bombay, £55

Dyestuffs—

Extracts

Montreal, £105

Victoria, 108

Canada, 438

Fustic Extract

Canada, £144

Montreal, 95

Logwood

Canada, £46

Montreal, 54

Victoria, 129

Auckland, 27

Madder

Montreal, £34

Dyestuffs (otherwise undescribed)

Bombay, £35

Farina—

Bombay, £50

Gelatine—

Pt. Elizabeth, £30

Dunedin, 21

Canada, 73

Lead Acetate—

Canada, 4 t. 16 c.

Linseed Oil—

Bahia, 17½ c.

Bombay, 1 15½

Kingston Jam., 1 15½

Rio de Janeiro, 5 5

Trinidad, 3 11

Port Lyttelton, 19½

Calcutta, 16

Canada, 4 7¾

Valparaiso, 10 6

Litharge—

Bombay, £36

Stockholm, 1 t.

Magnesium Sulphate—

Canada, 12 t. 5½ c.

Melbourne, £22

Christiania, 32

Muriatic Acid—

Bombay, £23

Paint—

Bahia, £24

Durban, 23

E. London, 36

Kingston, Jam., 74

Mauritius, 38

Pt. Louis, 20

Puerto Cabello, 20

Rio de Janeiro, 25

Trinidad, 28

U.S.A., 195

Invercargill, 17

Calcutta, 111

Colombo, 33

Madras, 74

Valparaiso, 235

Painters' Colours—

Algoa Bay, £25

Bombay, 177

Amsterdam, 248

Dunedin, 66

Hong Kong, 23

Invercargill, 17

Timaru, 268

Valparaiso, £32

Paraffin Wax—

Hiogo, 449

Russia, 9 t.

Stockholm, 9 t.

Potash Salts—

Delagoa Bay, 4 t. 1½ c.

Potassium Bichromate—

Bombay, 15 t. ¾ c.

Philadelphia, 27 7

Christiania, £202

Rotterdam, 414

Barcelona, 11 9½

Turkey, 2 15½

Canada, 8 12½

Rosin Oil—

Rotterdam, £20

Salt—

Bangkok, 1 t. 13 c.

Valparaiso, 2 2¾

Sheep Dip—

Auckland, £125

Dunedin, 340

Gisborne, 181

Soap—

Grenada, 1 t. 6¾ c.

Kingston, Jam., 18 13½

Trinidad, 6 16

Valparaiso, 1 6½

Soda Crystals—

Valparaiso, 30 t.

Sodium Bichromate—

Bombay, 19½ c.

Montreal, 2 t. 13½

Trinidad, 9

Barcelona, 3 17½

Canada, 17 2¾

Stannous Chloride—

Jamaica, £27

Starch—

Rio de Janeiro, £65

Tallow—

Transvaal, 3 t.

Rotterdam, 34 6 c.

Tartar—

Pt. Lyttelton, £21

Treachle—

Christiania, 15 t. 18½ c.

Drontheim, 1 6¾

Norwegian, £37

Stockholm, 73

Varnish—

Hong Kong, £50

White Lead—

Durban, £155

Dunedin, 124

TYNE.

Week ending October 19th.

Alkali—

Riga, 123 t. 5 c.

Hamburg, 5 14

Christiania, 2 17

Copenhagen, 39 18

Genoa, 8

Alum Cake—

Copenhagen, 50 t.

Ammonium Chloride—

Barcelona, 2 t. 10 c.

Gothenburg, 1 1

Antimony—

Hamburg, 7 t. 19 c.

Rotterdam, 7

Barium—

Antwerp, 5 t.

Barytes—

Hamburg, 200 t.

Copenhagen, 5

Blanc Fixe—

Copenhagen, 4 t. 4 c.

Bleaching Powder—

Antwerp, 70 t. 19 c.

Riga, 39 14

Hamburg, 24 16

Christiania, 26

Gothenburg, 16

Konigsberg, 3 14

Abo, 69 13

Copenhagen, 25 16

Rotterdam, 22 8

Drontheim, 10 5

Harlingen, 13

Genoa, 8

Borax—

Aarhus, 3 t. 7 c.

Caustic Soda—

Riga, 14 t. 2 c.

Hamburg, 40 19

Barcelona, 61 9

Abo, 160 12

Genoa, 15 1

Farina—

Bergen, 4 t.

Fluorspar—

Hamburg, 12 t. 8 c.

Litharge—

Riga, 10 t.

Hamburg, 1 2 c.

Christiania, 11

Abo, 2

Copenhagen, 1 16

Magnesia—

Hamburg, 1 t. 2 c.

Ochre—

Christiania, 3 t. 1 c.

Paint—

Antwerp, 2 t. 13 c.

Rotterdam, 5

Soda—

Christiania, 10 t.

Abo, 15 1 c.

Terneuzen, 249 10

Rotterdam, 23 15

Soda Ash—

Hamburg, 20 t. 8 c.

Bergen, 5

Konigsberg, 124 14

Abo, 186 1

Terneuzen, 10 9

Soda Crystals—

Genoa, 5 t.

Sulphur—

Riga, 175 t.

Christiania, 50

Gothenburg, 75

Drammen, 125

Tar—

Abo, 2 t. 5 c.

White Lead—

Copenhagen, 1 t. 6 c.

GOOLE.

Week ending October 16th.

Caoutchouc—

Boulogne, 12 cks.

Chemicals (otherwise undescribed)

Antwerp, 3 cks.

Ghent, 7

Hamburg, 61

Rotterdam, 10

Coal Products (otherwise undes.)—

Antwerp, 2 cks.

Boulogne, 28 1 cs. 1 dm.

Hamburg, 3

Rotterdam, 211 277 bgs.

Dyestuffs (otherwise undescribed)

Ghent, 6 cks. 1 cs.

Hamburg, 45

Rotterdam, 50

PRICES CURRENT.

WEDNESDAY, OCT. 30TH, 1901.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	9/-
" Glacial	"	40/-	
Arsenic S.G., 2000°	"	0	15 0
Fluoric	per lb.	0	0 3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
" (Cylinder), 30° Tw.	"	0	3 0
Nitric 80° Tw.	per lb.	0	0 1 1/2
Nitrous	"	0	0 1 1/4
Oxalic	nett	0	0 3 1/4
Phosphoric, 1750°	"	0	1 1
Picric	"	0	0 10
Sulphuric (fuming 50 %/a)	per ton	15	10 0
" (monohydrate)	"	5	10 0
" (Pyrites, 168°)	"	3	0 0
" " 150°	"	1	5 0
" (free from arsenic, 145°)	"	1	7 6
Sulphurous (solution) S.G. 1025	"	3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric	"	0	0 11 1/2
Arsenic, white powdered	nett per ton	15	10 0
Alum (loose lump)	"	4	12 6
Alumina Sulphate (pure)	"	4	12 6
Aluminoferrous	"	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	"	0	1 3
" "880=28° B.	per lb.	0	0 3
" " =24° B.	"	0	0 2 1/4
" Carbonate	nett	0	0 3 1/4
" Muriate	per ton	23	0 0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	37/-
" Nitrate	per ton	38	13 0
" Phosphate	per lb.	0	0 6 1/2
" Sulphate (grey) London	per ton	9	0 0
" (grey) Hull	"	8	17 6
Aniline Oil (pure)	per lb.	0	0 5 1/4
Aniline Salt	"	0	0 4 1/4
Antimony	per ton	31	0 0
" (tartar emetic)	per lb.	0	0 7
" (golden sulphide)	"	0	0 10
Barium Chloride	per ton	6	7 6
" Carbonate (native)	"	3	5 0
" Sulphate (native levigated)	"	42/6	to 65/-
Bleaching Powder, 35 %	nett	7	0 0
" Liquor, 7 %	"	3	10 0
Bisulphide of Carbon	"	13	5 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	"	15/-	to 30/-

Coal Tar Products and Dyes:—

Alizarine (artificial) 20 %	nett per lb.	0	0 7 1/4
Magenta	"	0	3 9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0 11 1/2
Benzol, 90 % nominal	per gallon	0	1 3
" 50/90	"	0	1 2
Carbolic Acid (crystallised 40°)	per lb.	0	0 5 1/4
" (crude 60°)	per gallon	0	1 6 1/2
Creosote (ordinary)	"	0	0 1 1/2
" (filtered for Lucigen light)	"	0	0 2
Crude Naphtha 30 % @ 120° C.	"	0	0 5 1/4
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	"	1	15 0
Solvent Naphtha, 90 % at 160°	per gallon	0	1 2
" Lucigen and " Wells " Oils	"	0	0 2 1/2
Copper	per ton	45	10 0
" Sulphate	"	16	10 0
" Oxide (copper scales)	"	41	10 0
Glycerine (crude)	"	18	10 0
" (distilled S.G. 1250°)	"	47	10 0
Iodine	nett, per oz.	0	0 9
Iron Sulphate (copperas)	per ton	1	5 0
" Sulphide (antimony slag)	"	2	0 0
Lead (sheet) for cash	"	12	15 0
" Litharge Flake (ex ship)	"	13	15 0
" Acetate (white ")	"	22	0 0
" " brown ")	"	15	0 0
" Carbonate (white lead) pure	"	16	0 0
" Nitrate	"	19	0 0

Lime, Acetate (brown)	per ton	5	7
" (grey)	"	7	17
Magnesium (ribbon and wire)	per oz.	0	1
" Chloride (ex ship)	per ton	2	7
" Carbonate	per cwt.	1	17
" Hydrate	per ton	17	0
" Sulphate (Epsom Salts)	per ton	3	0
Manganese, Sulphate	"	17	0
" Borate	per cwt.	2	15
" Ore, 70 %	per ton	4	5
Methylated Spirit, 61° O.P.	per gallon	0	1
Naphtha (Wood), Solvent	"	0	3
" Miscible, 60° O.P.	"	0	3

Oils:—

Cotton-seed	per ton	18	5
Linseed	"	22	0
Petroleum, American	per gallon	0	0
Stearine	per ton	24	0
Phosphorus (yellow)	per lb.	0	1
" (red)	"	0	2
Potassium (metal)	per oz.	0	1
" Bichromate	nett per lb.	0	0
" Carbonate, 90% (ex ship)	per ton	17	0
" Chlorate	per lb.	0	0
" Cyanide, 98%	"	0	1
" Hydrate (Caustic Potash)	per ton	24	15
" (Caustic Potash) 75/80 %	"	21	10
" (Caustic Potash) 70/75 %	"	20	0
" Nitrate (refined)	per cwt.	1	1
" Permanganate	per cwt.	2	17
" Prussiate Yellow	per lb.	0	0
" Sulphate, 90 % (ex ship)	per ton	9	15
" Muriate, 80 % (do.)	"	8	10
Silver (metal)	per oz.	0	2
" Nitrate	"	0	2
Sodium (metal)	per lb.	0	2
" Carb. (refined Soda-ash) 48 %	nett per ton	4	15
" (Caustic Soda-ash) 48 %	"	3	17
" (Carb. Soda-ash) 48 %	"	3	15
" (Alkali) 58 %	"	3	15
" (Soda Crystals)	"	3	2
" Acetate (ex-ship)	"	14	0
" Arseniate, 45 %	"	11	0
" Chlorate	per lb.	0	0
" Borate (Borax)	net, per ton	19	0
" Bichromate	per lb.	0	0
" Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	"	9	7
" (74 % Caustic Soda)	"	8	7
" (70 % Caustic Soda)	"	7	10
" (60 % Caustic Soda)	"	6	10
" (60 % Caustic Soda, cream) (f.o.b.)	"	6	7
" Bicarbonate	"	6	10
" Hyposulphite	"	5	10
" Manganate, 30%	"	16	0
" Nitrate (95 % ex-ship Liverpool)	per cwt.	0	7
" Nitrite, 98 %	per ton	31	0
" Phosphate	"	13	10
" Silicate (glass)	per ton	4	10
" (liquid, 100° Tw.)	"	3	10
" Stannate, 40 %	per cwt.	3	2
" Sulphate (Salt-cake)	per ton	1	2
" (Glauber's Salts)	"	1	5
" Sulphide	"	8	0
" Sulphite	"	5	5
Strontium Hydrate, 100%	"	3	10
Sulphocyanide Ammonium, 95 %	per lb.	0	0
" Barium, 95 %	"	0	0
" Potassium	"	0	0
Sulphur (Flowers)	per ton	6	0
" (Roll Brimstone)	"	5	0
" Brimstone: Best Quality	"	3	12
Superphosphate of Lime (26%	"	2	7
Tallow	"	22	10
Tin Crystals	per lb.	0	0
" English Ingots	per ton	69	0
Zinc (Spelter)	"	15	0
" Chloride (solution, 100° Tw.)	"	5	7

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Notices.

Communications for the *Chemical Trade Journal* should be sent to the Editor, and Cheques and Post Office Orders made payable to—

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Contributors are invited to forward items of intelligence, or cuttings from newspapers, of interest to the trades concerned.

Communications for the Editor, if intended for insertion in the next week's issue, should reach the office not later than **Tuesday** evening.

Reports, and correspondence on all matters of interest to the chemical and allied industries, home and foreign, are solicited. Contributors should condense their matter as much as possible, on one side only of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be on separate sheets.

Advertisements.

Advertisements of Situations Vacant, Premises on Sale or To be Let, and Specific Articles for Sale by Private Contract are accepted at the *Chemical Trade Journal* at the following rates:—

10 Word and under

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

THE OUTLOOK IN NITRATE.

IF ever there was need of the Permanent Nitrate Committee working the wonders that it has always been about to accomplish since as far back as 1890, that need today is paramount.

As far as prices are concerned we fail to see how the most powerful combine can effect any material change, save indirectly by restricting the output. But so long as buyers remain obdurate and there are other sources of nitrogen available at about the same price as nitrate, all the restriction in the world will not create a demand. Although it may not be a very pleasant fact to realise, nevertheless this is pretty much the position of affairs in regard to nitrate of soda at the present moment.

Things now are not what they were in 1888, as the history of the Primitiva Company only too clearly shows. In a sense the crisis of this company has come inopportunistically. The industry requires comforting evidence to reassure its supporters, instead of which the depressing history of the brilliant start of this company with 100 per cent. dividend and its present imminent danger of an ignominious "fizzle out" will if anything tend to increase distrust.

There can be little doubt that the course ultimately chosen by the shareholders will have its effect upon the trade. If the £20,000, so urgently needed (not for developments, but to clear immediate and pressing liabilities) is forthcoming, other shareholders will be strengthened by the knowledge that faith is held in even such a forlorn hope as the Primitiva. From one point of view we should have no hesitation as to how to act, and it would be an easy matter to say where our share of the £20,000. would be. Supposing the majority of the shareholders take the same view, their decision will be taken by many as another "indication."

There is certainly a plethora of these "indications." The attitude of the San Pablo Company will be an eye-opener to some of the latest ventures. But while this company is only storing caliche against the good time to come, and producing as little nitrate as possible therefrom, they are in a position to satisfy their supporters with a 5 per cent. dividend, and the transference of a nice balance to the reserve fund. The new companies have yet to attain to this enviable position.

It is not surprising that almost all the companies are so anxious to see the Combine in effect. They know their cost of production, and if their lowest profitable selling price runs, like that of the Primitiva, close to 9s. per cwt., no wonder anxiety is visible. The cost of production in some of the new companies is said to be very low, and if they can make a profit, it is not at all unlikely that before long they will want to make what they can, instead of submitting to the restrictions of a Combine in the mere hope of ultimately making a *coup*. And what will the other companies do then?

At any rate, it is clear enough what the consumers will do—make the best of what will be a right royal time for them.

It is apparently on grounds somewhat after this nature that the Lautaro Co. abstained from being represented at the meeting held only a few days since in the endeavour to settle the Combination.

In spite of promiscuous restrictions upon output, the visible supply continues to increase. On the 1st of September last it was 317,200 tons. This month it is computed at 534,690 tons. In the face of this it is little less than grievous, and to say the least, aggravating, to read the laborious statements in which the Lagunas Nitrate Co. have recently been setting forth in full the validity of their claims to the nitrate grounds they acquired last year. What is the use of it all? We have more nitrate now than the market can do with, and where are the profits for new producers to come from unless it be out of the pockets of some of the older and less favourably circumstanced companies? If this is so it is an open question whether the collapse had not better come now, and so clear the way for a fresh start on a healthier basis, than for the evil day to be delayed artificially in the hope of securing a few fortuitous profits. If anything, we incline towards seeing the Combine abandoned as a vain hope, and the conflict of companies commenced. We are not without sympathy for some companies that we fear will by no means escape scathless, and then only after a hard fight; but as things are, it is better to know the worst at once, than to build on hopes that will eventually crumble into the dust of disappointment.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

THE opening meeting of the session was held at the rooms of the Chemical Club, Victoria Hotel, on Friday, November 1st. After the usual tea and social hour the chair was taken at 7 p.m. by Mr. Geo. E. Davis.

Prior to reading his address, the Chairman said having taken part for so long in the meetings of the society, it seemed somewhat strange to him to stand before them in the capacity of chairman, and he would have much sooner seen their late chairman, Mr. R. Forbes Carpenter, occupying that position. He felt sure all those present would be glad to know that the reason which had prevented Mr. Carpenter remaining as their chairman was that he had been appointed chief inspector under the Alkali Works, etc., Act. All those who had been under his inspection knew him to be a most painstaking inspector. He gave him the congratulations of the meeting.

Proceeding to deliver his address on "A Quarter of a Century in the Heavy Chemicals Trade," the Chairman said:—

The last quarter of a century has been more remarkable for the development of details than for startling revolutions in the manufacture of heavy chemicals.

So far as bleaching powder is concerned this period has seen both the Weldon and the Deacon processes brought gradually to such a pitch of perfection that now almost the theoretical yield is obtained per ton of salt, as compared with the fifty per cent. returns of twenty years ago. Caustic soda, too, has undergone a similar experience, and is now produced at prices undreamed of in 1870.

The Deacon and Weldon processes for making bleaching powder are now threatened by the nitric acid process and by various electrolytic processes, but it is too early yet to prognosticate their results. Electrolysis and the Loewig process have perhaps greater terrors for Leblanc caustic, as in both cases the product is purer than that of the older make. The ammonia-soda and the West Knight and Gail processes for making soda ash were also referred to, and Mr. Davis indicated as the possible development of the future the making of salt cake by the Hargreaves process, the reduction of this salt cake by means of water gas, and the carbonating of the sodium sulphide *in situ* by carbonic acid.

Reference was also made to the Hasenclever process, to improvements in the manufacture of sulphate of ammonia, of the chlorates of soda and barium, to the Chance process for sulphur recovery, and the various other advances which have been the characteristics of the period under review.

Mr. Davis concluded with a severe indictment of the authorities governing bodies in this country generally towards the teaching of chemical technology, and gave it as his opinion that professional teachers should be sufficiently well paid to be no longer under necessity of "dabbling in company mongering, or establishing selves on the doorstep of the Patent Office." He also paid tribute to the value of the Society's Journal.

Mr. R. Forbes Carpenter, in moving a vote of thanks, reaffirmed the chairman's remarks, and thanked him for his generous concern for himself. He much regretted the fact that his name would more or less sever his connection with the Section, but he never do so wholly. Mr. Ivan Levinstein seconded the vote, and also supported the chairman's congratulations to Mr. C. S. The vote, after being further supported by Dr. Bowman, Grimshaw, and Dr. Grossmann, was put and carried. The chairman briefly replied, after which the proceedings, which had been attended, terminated.

SCOTTISH SECTION.

The first meeting of the session was held on November 1st, Glasgow. Owing to an outbreak of wet and boisterous weather attendance was very small. Dr. John Clark, the chairman of the Section, delivered his inaugural address, which, in a style of condensation, included a very large, if not the whole, of chemical science. After glancing at the progress of the Society since its foundation, he noted the great change which had come over the industry of the country, which once had no rival to speak of in the supply of chemicals to the world, but now had enough to do to retain even a moderate share. We had to learn of the Germans in many things more into original chemical research, and very much enlarged as regards organic chemistry. Chemical manufacturers must call trained chemists to their aid more than they do. As one of chemical industry which had fallen upon very evil times, he cited that of sugar refining. Greenock refineries reduced to about one-half their number, and the cause was the bounty system on the Continent, a system which was to be fought more strenuously than had been done yet, if a greater industry were not to be wiped out altogether. Passing to distillation, he advocated the raising of the statutory flash point of oil to 100°, so that dangerous foreign oils might be excluded. Safer home oils come into the larger use they deserved. Sulphuric acid production had increased enormously in this country since the sources, but most of all as a by-product in shale distillation improved methods of which now extracted and retained for use double the yield of quite recent years. Much went to waste here was a field, perhaps, for yet newer methods of chemical treatment. Reference was made to the battle between the ammonia and the Leblanc systems of production, and also to the decomposition of salt by the agency of electricity on a manufacturing basis, a field there still remained much to be discovered. Advertising problem of river purification by the aid chiefly of chemical means spoke hopefully of what was now doing in Glasgow in that direction, and instanced samples which showed how far rivers would go in way of self purification if given anything like a chance. Samples of water from the river Irvine, one at Kilmarnock, other five miles below that town, the latter, analysed, showed river during that course of only five miles had got rid of a whole of the free or saline ammonia. A part of the paper was to the subject of black smoke and the prospects connected with the problem being admitted as one of great difficulty, and one the solution of which but little real progress had yet been made. Clark's paper was an exceedingly able and interesting one, and drew much larger audience than the inclemency of the weather permitted him.

THE CONSUMPTION OF GAS IN MANCHESTER.—In 1894, chiefly of the use of the automatic prepayment gas meters, the consumption of gas in Manchester continues to increase in spite of opposition of the electric light. From Friday, the 15th Thursday, the 24th ult., inclusive, the consumption of gas amounted to 84,303,000 cubic feet, as compared with 79,000,000 cubic feet last year, or an increase of 5.63 per cent. From Friday ult., till Monday, 28th ult., the consumption as compared with corresponding days of last year was as follows:—

	1894.	1895.	Increase.
Friday	13,951,000	14,941,000	990,000
Saturday	11,583,000	12,256,000	673,000
Sunday	7,382,000	8,094,000	712,000
Monday	13,142,000	16,890,000	3,748,000

The stock of gas had decreased from 13,530,000 cubic feet on the 21st ult., to 8,640,000 on Tuesday, 29th ult. The market is now being increased, and a full supply will continue to be available.

The Patent List.

This list is compiled from Official sources in the Manchester Laboratory, under the immediate supervision of E. Davis and Alfred R. Davis, who report professionally value of Chemical Patents.

NOTIFICATIONS FOR ENGLISH LETTERS PATENT.

Grinding Machines. J. Tompkins, F. Pemberton, and James Tompkins. October 21.
 Regulating the Consumption of Acetylene Gas. J. C. 19,771. October 21.
 Apparatus for Generating Acetylene. J. H. Exley. 19,779. October 22.
 Compressing, and Propelling Liquids. J. Sadd. 19,806. October 22.
 Carbolic Disinfectant Powder. E. W. Rowsell and C. Stansfield. October 22.
 Apparatus in Crushing Machines. D. Young. 19,818. October 22.
 Mechanical Apparatus. R. Heathfield and W. S. Rawson. 19,828. October 22.
 Improved Lubricating Compound. A. J. Boulton. 19,890. October 22.
 Cleaning and Purifying Mica and Mica Ore. A. J. Boulton. 19,892. October 22.
 Apparatus in Seed and other Crushing Machinery. J. Buffham. October 23.
 Apparatus in Apparatus and Process for the Electrolytical Production of Metallic Zinc and Copper, with Oxygen as a By-product. Burghardt and G. Rigg. October 23.
 Mixing and Kneading Machines. W. P. Thompson. 19,959. October 23.
 Apparatus in Filtering Apparatus. C. Whitfield. 19,968. October 23.
 Soft Soap. E. J. T. Digby. 20,003. October 24.
 Grease and other Products obtained from Towns' Sewage. Smith. 20,030. October 24.
 Deodorizers. G. C. Marks. 20,070. October 24.
 Acetylene Gas. C. G. Luis. 20,072. October 24.
 Oil from Vegetable Seed. H. T. C. Kraus. 20,107. October 25.
 Incrustation in Steam Boilers. W. Shearman. 20,217. October 25.
 Process for Rubber. E. Hornung. 20,243. October 26.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

Abstracts are specially prepared for the Chemical Trade Journal. RIGHTS of publication are RESERVED. This is the earliest abstracts of Chemical and allied patents accessible to the

Apparatus in Apparatus for Purifying and Softening Water. B. McLaren, The Nook, Maidenhead, and H. Carrod, 6, Ledbury-road, Croydon. Eng. Pat. 16,259. Aug. 30, 1895.

General arrangement is the same as usual, the reagent and tanks surmounting the large purification tank. In the latter, perforated plates are attached to the sides. These plates terminate under horizontal baffle plates likewise, the perforations in all cases being so arranged that they are the solid parts of the adjacent plates. The treated water through a stand pipe which reaches nearly to the bottom of the tank, beneath the inclined plates, passes upwards, depositing the mud or impurities, which slide down the plates, and collect at the bottom of the tank, where sludge cocks are disposed for their removal. The reagent tank is divided, so that there is one compartment filled with a solution of the precipitant. Between the purifying and reagent tanks are two smaller ball tanks, the first of which is regulated by ball cocks. The reagent flows into the first of a floating overflow pipe in the reagent tank, and the water into the other. The two escape through nozzles of the same size as to give the requisite proportions of water and reagent, and pass into the stand pipe, which delivers them, well to the bottom of the purification tank.

Apparatus in or Appertaining to Apparatus for and the Art of Mining, Working, and Handling Bituminous, or similar Compositions and Articles made therefrom. E. F. Badgley, 819, Market-street, A. R. Green, 404, Turk-street; and A. Crockett, 417, Larkin-street, San Francisco, U.S.A. Eng. Pat. 13,761. July 18, 1895.

Petroleum fats are first expelled so as to increase the tensile strength and to give resistance to solar heat. The tempering is accomplished by means of direct heat in the form of a blast of hot air blown over the compounds while they are being mixed. The second part of the process consists in preventing the compounds sticking or clumping into lumps while being worked. To this end, an arrangement of appliances kept hotter than the compounds under treatment is used. The third part of the process is the cooling or hardening of the articles produced from the bituminous compounds, which is accomplished by wet or water-cooled implements. Various forms of apparatus are described for the continuous execution of these stages of the process, for particulars of which the drawings, numbering 14 in all, are consulted.

Improvements in the Manufacture of Acetone, and in Apparatus therefor. R. Jürgensen, Smetanka 6, Prague, and A. Bauschlicher, Zbirow, both in Bohemia. Eng. Pat. 23,438. Dec. 3, 1894.

The object is to so conduct the manufacture as to avoid the production of the secondary compounds usually formed during the process. The raw material is obtained by adding about 5 parts of caustic lime, or its equivalent of calcium hydrate in the form of milk of lime, to 100 parts of neutral acetate of lime solution, previously concentrated to a pasty condition, and then drying the mixture. Other suitable alkaline hydrates or alkaline earths may be used. This mixture is then subjected to destructive distillation in a hermetically-sealed, horizontal iron retort fitted with an agitator in accordance with the following specified procedure:—

The purity of the resulting crude acetone has been found to depend upon the evenness of the temperature at which the distillation is conducted. The retort is, therefore, heated by means of a bath of molten lead, kept in a molten state by the fire of a furnace situated beneath. The flue gases from this furnace also heat the producer or other inert gases that require to be passed into the head of the retort, raising them to a constant temperature of 300°C. during their passage through a heating coil situated in the flue. By introducing these heated inert gases the formation of chemical condensation products is avoided, and the safe transit of the freshly-formed acetone vapours from the retort to the condenser is accomplished.

In their passage to the condenser they are first passed through a steam-heated separator to remove any of the salts that may have been carried over by the gaseous current in the form of dust. The crude acetone is obtained from the condenser, while the inert gases pass through and are collected for re-use. The crude product is finally purified by distillation in a column still, after separation of the tarry and oily products. It is claimed for the process that 25 to 26 kilos (say, 56lbs.) of 99% acetone are obtained from every 100 kilos (220lbs.) of commercial grey acetate of lime.

Process and Apparatus for the Manufacture of Caustic Alkalies from Alloys of the Alkali Metals. L. P. Hulin, of Modane, France. Eng. Pat. 23,370. Dec. 1, 1894. (Under International Convention, May 9, 1895.)

Rich alloys of alkali metals with heavy metals, such as copper, tin, zinc, and antimony, obtained by the electrolytical process described in patent 23,117/94, are acted upon indirectly by steam under conditions which effect the usual decomposition without the direct contact of the steam or of even a drop of water of condensation.

The alloy is placed in the bottom of a strong receiver filled with hydrogen, and of such size as to allow a large space for the gas and alkali to be obtained. Within the vessel and near the top there is also an open tray containing water, and a vent for the hydrogen gas. On heating the vessel gradually until the alloy is in a state of fusion the water in the tray slowly becomes hotter, giving off a slight vapour of steam which diffuses through the hydrogen, and while highly diluted is quietly decomposed in contact with the fused alloy. There is then formed a thin layer of more or less anhydrous caustic alkali, and the vapour continuing to diffuse combines with it, forming an alkaline hydrate. This hydrate reacts on the adjacent alloy, the alkali metal of which decomposes the water of hydration and becomes oxidized at its expense, thereby increasing the layer of alkali, while the evolved hydrogen bubbles up through the layer promoting the continuation of the process. There is one sectional elevation which clearly shows the general arrangement of the apparatus.

Improvements in the Manufacture, Treatment or Purification, and Production of Salts or Compounds of Alumina. J. L. Kessler, 21, Boulevard Pissonnier, Paris. Eng. Pat. 1,419. Jan. 21, 1895.

This invention relates to certain improvements in the use of phosphoric acid and a reducing agent for the removal of the colouration in salts of alumina due to iron. The phosphoric acid may be added in any one of the numerous forms specified. The removal of the peroxide of iron is rendered more certain by the use of sulphurous acid or sulphide of hydrogen gas, whereby the peroxide is reduced to protoxide. The only condition affecting the addition of the phosphoric acid is that it should be present in equal quantity, by weight, to the peroxide of iron, either contained in, or capable of being formed by oxidation from, the salt under treatment.

SINGULAR VITRIOL ACCIDENT.—A nasty accident occurred recently at the California Silk Mill Dyeworks, Leek, where a carboy of vitriol burst. The mishap occurred in the top storey, the acid running through the floors and upon some female silk winders in the basement. Several of the operatives, who were looking upwards, were so severely burnt about the head and face that total loss of sight is feared. Mr. Rupert Hill, son of the tenant of the mill, was saturated about the head and neck, and has sustained terrible injuries. A vast amount of silk was also destroyed.

Our Book Shelf.

THE MANUFACTURE OF EXPLOSIVES. By O. Guttman. Vol. I., 348 pp., 147 illustrations. Vol. II., 444 pp., with index, 181 illustrations. London: Whittaker and Co. 1895. Two guineas.

The literature on the manufacture of explosives has so far been very limited, although the changes in the methods of manufacture have been astounding. In writing a book on such a subject, however, there are several points political as well as technical to be considered. In the author's opinion, there is no objection to the publication of a work on the manufacture of explosives, judging from the way he has treated the subject. From start to finish the lines on which the book is constructed are such as to render it of little value to the uninitiated who would like to learn how to manufacture explosives. To the expert it is, however, full of useful information and counsel.

The first volume, after a brief historical outline, deals with the chief ingredients used for the manufacture of explosives. These ingredients are dealt with at some length, the properties, source of origin, or manufacture being explicitly dealt with. The rest of the volume deals with the manufacture and composition of black powder, with further particulars on the physical and mechanical properties of this class of powders and their chemical examination.

The second volume is devoted to gun cotton, fulminates, dynamite, special patented explosives, and smokeless powders, concerning which either manufacturing details or interesting information is afforded. The apparatus for examining explosives is also carefully explained and amply illustrated. In an appendix the usual tests applied to the so-called nitro-explosives are set forth. The addenda includes the bibliography of explosives. Well got up, splendidly illustrated, and carefully written, the author has provided a standard work, practical to the practised, and a valuable source of reference to all interested in modern explosives, the like of which has not been present for more than twenty years.

CHEMISTRY OF URINE. By A. H. Allen. 212 pp.; with Index, 19 woodcuts. London: J. & A. Churchill. 7s. 6d.

The author's name is in a measure the best recommendation this book can have, but at the same time a word of explanation is necessary in which to set forth the exact scope of the work.

It is confined more to the pathological aspects of urinary analysis, and is not a complete guide to this subject.

The position of the medical examiners to life assurance companies is as difficult as it is exacting, and the careful revision and verification of the generally accepted methods of urinary analysis which the author now presents must prove of great assistance to all requiring sound tests on which to base their conclusions. At the same time there is much concerning the subjects fully dealt with to interest and help analytical chemists. After the consideration of the general composition of urine and its preliminary examination, the constitution and characteristics of diabetic urine are expounded, and the methods of detecting and determining the sugar explained. Albuminous urine is similarly treated.

The next important section is devoted to the nitrogenised constituents of urine, and will be found by general analysts one of the most interesting portions.

The latter portion of the book contains an excellent chapter on the colouring matters of urine, which apart from the chemistry of the various blood and bile pigments contains a series of tabulated observations which will prove most helpful in making pathological diagnoses.

MANURING HAY, OATS, AND TURNIPS. Report of the Glasgow and West of Scotland Agricultural Society for 1894. Glasgow. 1895. (1s., from the Secretary.)

These experiments are carefully and clearly set forth, along with the conclusions arrived at. Their arrangement is admirable, it being most refreshing to see these reports following the excellent lines adopted in framing the State Bulletins in America and elsewhere.

In addition to the manuring of the crops above-mentioned, there is a useful section dealing with the causes and treatment of finger and toe in turnips.

The report from beginning to end is of great importance to agriculturists, to whom we unreservedly recommend it for careful perusal.

NITRATE STATISTICS.—The Permanent Nitrate Committee reports: Total exports to Europe, October, 4,900,000 quintals; loading for Europe, November 1st, 2,323,000 quintals. Imports, Europe, October, 48,500 tons; deliveries in Europe, October, 39,510 tons; and visible supply, Europe, November 1st, stocks and afloat, 534,690 tons.

THE MERSEY AND IRWELL JOINT COMMITTEE

A MEETING of the Mersey and Irwell Joint Committee was held on Monday in the Board-room, Mosley-street. Mr. Al. Joseph Thompson presided.

THE BURY SEWAGE WORKS.

The report of the Consulting Sub-committee stated that a letter had been received from the Town Clerk of Bury asking for a further extension of time for two years in which to complete their necessary works. The Chief Inspector of the Rivers Committee had reported that considerable progress had been made with the intercepting works, which would probably be finished by next spring or summer, but that outfall works had not been commenced, notwithstanding the fact that for a start on such works had been put before the Corporation time to time. The Chief Inspector advised that these works could possibly now be ready by the time the intercepting sewer was finished, and that, therefore, there would be delay in the treatment of any rate of a portion of the borough sewage. A deputation from the Corporation, consisting of Mr. Brierley and Mr. J. Cartwright (borough surveyor) attended before the meeting of the sub-committee to explain the reasons of the Corporation, and Mr. Cartwright stated that the reason the Corporation asked for two years in which to complete the necessary works was because they could not get men or material enough to complete the work in a shorter space of time. He also stated that they had commenced the construction of the outfall works because they had been unable to make up their minds as to the mode of construction of the precipitation tanks. After carefully considering the matter the sub-committee were of opinion that the application of the Corporation of Bury was a most unreasonable one, and they further considered some of the statements made could not be substantiated, and therefore recommended that the Clerk be instructed to take proceedings against the Corporation of Bury for non-compliance with the order of the court, and to apply for penalties against them for the same.

Mr. T. W. Killick, chairman of the Sub-Committee, said that he had no desire in any way to deal harshly with Bury or to deal directly with that Corporation from other authorities. The Committee considered that it was too great a thing for Bury to ask for a further grant of time, as that would bring the whole time allowed in the case to three half years. If the request were granted it would lead to unnecessary delay by the Bury authorities. He suggested that the most they should defer the matter for a month in order to allow the Corporation time to give definite information as to what they intended to do.

Mr. C. Brierley said that the works were being carried on by Bury authorities at as rapid a rate as possible. The question of the best method of dealing with sewage was by no means settled, and he urged that it was not the best nor the wisest course for the sub-committee to hurry Corporations which were endeavouring to do the best. It was further necessary to give proper time, as he considered that through excessive haste no single scheme within the area covered by the Committee had proved an unqualified success. He moved that Bury be allowed two months to prepare the definite statement for.

Mr. John Brierley seconded the motion, which was accepted by Mr. Killick and adopted.

There was no other business of importance before the Committee.

THE REMOVAL OF STARCH FROM RAGS

(By CLAYTON BEADLE)

WHEN rags containing considerable quantities of starch are treated in the ordinary way with dilute solutions of caustic soda, the starch is not dissolved, but is often found adhering to the rag as a yellow slime. This slime prevents the proper cleansing of the rag, besides forming yellow spots which often find their way into the finished paper, doing a lot of damage. It appears that the pectins and resins removed from the rags by the caustic soda form, with starch, an insoluble substance. When a quantity of starch is placed in a bundle and exposed to the action of the soda liquor during boiling, it is found to be converted into this insoluble substance, which dries to a heavy brown mass. It is a mistake to treat new pieces with caustic soda until the greater part of the starch has been removed. Treatment with boiling water is by no means effective, as the starch is so closely associated with the cellulose that it can be removed only with great difficulty. I have made a number of experiments in this direction and have found that in some cases only a small proportion of the starch is removed after prolonged boiling. This is found to be the case when attempting to remove the starch from papers, and is due to the formation of a starch-cellulose compound.

I have found that by far the most effective method is to convert the starch into sugar by treatment with malt extract. The amount

varies from 1½ lbs. to 3 lbs. per cwt. of rags, according to amount of starch that they contain. The malt is saturated with high should have a temperature of 150°F. in summer or 170°F.

It is allowed to soak for two hours, drawn off, and filled up with water, which is shortly drawn off and mixed with the first

The malting of the rags is done either in a rotary boiler or. The malt liquor is introduced into the boiler together with sufficient water at 180°F. to keep the rags saturated. After two hours is found to be sufficient for the conversion of starch into dextrine and maltose. The process can be watched by taking off samples periodically, and noting the reducing action with Fehling's solution. When the action is complete, the solution is drawn off and the mass in the case of new rags treated with boiling water for

It is found advisable to thoroughly remove the sugar from the mass before bleaching, or the material may go back in colour. If the rags are old, they are boiled in caustic soda after being rinsed with water for the removal of the sugar. Large quantities of rags have been treated by the above process, and they are found to be of a higher colour and cleaner than if caustic soda is first used as a preliminary way. In the case of raw rags the strength is increased, in the case of no necessity for an alkaline treatment at all.

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EXTENSION OF TRADE WITH CHINA.

IN the preparation of the annual report, to be published in January next, the China Association in London has issued copies of correspondence referring to British interests in China, occurring during the last few months. The following paragraphs are taken from the report received from the Shanghai Committee of the Association, upon the subject of extending British trade with China:—The means of communication in China are so imperfect that the welfare of the population, prevention of famines and the extension of commerce depend in great measure upon real improvement in that direction. The completion of a railway system by the Chinese Government, after the experience gained during the war with Japan, may be expected. All restrictions upon freedom of navigation and waterways should be removed and proper regulations substituted. All charges leviable for maintenance or toll should be fixed and uniform for natives as well as foreigners.

Following needs of the empire, especially the requirements of a system intended to traverse the country in all directions, and means for facilitating internal communication, call urgently for the establishment of a national currency. At present the "money" of China consists of ingots of silver of irregular shape and varying weight, and is devoid of mintage stamp or other trustworthy attestation to entitle it to the confidence of the public as a medium of exchange. So material are the differences in the quality of silver in each province, and even in each important city, that the free trade is seriously hampered. The establishment of mints to issue public confidence, and the formation of a national coinage, are of pressing necessity.

Freedom of internal communication can only be secured when existing barriers in the form of internal duties and imposts are removed.

The revision and equalization of provincial taxation are of great necessity. The desirability of opening to free navigation by British-owned or craft all navigable rivers and waterways, especially the Yangtze and the Chukiang or Canton river, is again urged. With reference to the navigation of the Yangtze above Ichang, which was opened to the navigation of the Yangtze above Ichang, which was opened by the Chefoo Convention of 1876, and suspended under a provision of the facts, this privilege should be revived.

Form of the system of inland taxation known as "Lekin," which is an object of having it placed on a fixed and uniform basis.

Organisation and extension of the transit pass system.

Establishment of a court of competent jurisdiction to hear and decide, and to enforce its judgments in all suits in which British subjects are plaintiffs and Chinese subjects defendants. The institution of a Mixed Court is inadequate for the administration of justice for the following reasons among others. The rank of the judges who have hitherto been appointed to act as judges of the Mixed Court is so low as to be in many cases beneath the rank of defendants appearing before the court; and the magistrate is unable to enforce his judgments. The power of this court in criminal matters is limited to cases of very trivial cases, all grave charges having to be sent to the higher court; in consequence of which natives in foreign employment, for example, as the municipal police, subjected to serious charges of the execution of their duty, are transferred to other places of detention, are frequently lost sight of by their employers, and remain for a long time in prison without trial. The appeal from the Mixed Court of Shanghai in criminal cases appears to be to the higher court; in civil cases it is doubtful to what court, if any, an appeal lies. The court should be reconstructed. Officials of much

higher rank should be appointed with all the powers of a district magistrate, in order that the presiding judge may give at least a first instance judgment in every case. The foreign settlements should be made a separate jurisdiction of the Shanghai Hsien; the appeal should be to the Taotai and Chief Justice of Her Majesty's Supreme Court in China; thence to a court in Peking of which Her Majesty's Minister should be a member. The magistrate of first instance ought to be bound to hear in open court all cases formally brought before him; rules of procedure should be drawn up; and such other measures adopted as will ensure the satisfactory administration of justice without unnecessary delay, and irrespective of the rank of the parties.

Having regard to the inevitable changes in the conditions of trade necessitated by the separation of gold and silver, formerly the joint currency of the world, and the bonus given by gold exchanges to every branch of manufacturing industry in Eastern countries, which must eventually materially curtail the import of foreign manufactures, to be superseded by native manufactures of the same class, it is most desirable that British subjects should be compensated by the grant of the privilege of participation in domestic manufacturing enterprise. Every industrial project, the manufacture of war material excepted, should be open without restriction or limitation to natives and foreigners alike; subject to such regulations as may be necessary.

Machinery, material for the manufacture of machinery; material for the construction, equipment, and repair of ships; and raw material for manufacturing purposes, should be permitted to be imported without restriction.

All restrictions on the transport and export of rice and grain of every kind should be removed.

The importation of salt, under conditions, to be permitted.

Provisions for the registration and protection of British trade marks should be enacted.

The liability of Chinese subjects for the unpaid capital in respect of shares held by them in English registered companies should be declared and defined.

The grant by the Chinese Government of power of foreign municipalities to enact regulations for the control of Chinese residing or being temporarily within the limits of such municipalities may reasonably be insisted upon; more especially measures for the preservation of health and the enforcement of sanitary measures. All such regulations, when duly enacted, to be communicated to the Chinese authorities and be enforceable against Chinese subjects in the courts to be provided for adjudication of matters in which Chinese are defendants. Municipal control should be extended to the harbours and their approaches within defined limits to be agreed upon.

EXPORTS OF ALKALI AND BLEACH.

THE following figures, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries during the month of September, 1895, as compared with the same month in 1894:—

ALKALI.				
Port.	1894.	1895.	1894.	1895.
	Cwts.	Cwts.	£	£
Russia	30,088	18,428	10,890	5,807
Sweden and Norway	9,436	12,384	1,964	2,581
Germany	13,440	6,384	4,476	2,007
Holland	8,640	10,386	1,928	1,834
France	1,953	3,685	767	1,419
Spain and Canaries	24,762	29,223	11,330	10,265
Italy	17,440	13,844	6,584	4,372
United States	260,439	308,291	59,523	64,271
Australasia	28,805	13,540	8,391	4,004
British North America ..	20,877	18,743	5,009	4,698
Other countries	83,783	84,160	25,732	25,702
Total	499,663	519,068	136,594	126,960

BLEACHING POWDER, ETC.				
Port.	1894.	1895.	1894.	1895.
	Cwts.	Cwts.	£	£
United States	51,184	58,075	20,845	22,194
Other countries	63,401	46,648	24,567	16,967
Total	114,585	104,723	45,412	39,161

PERSONAL.—We understand that Mr. E. A. Brotherton, principal of the firm of Brotherton and Co., ammonia distillers, of Leeds, Birmingham, and Wakefield, has just left England for a short tour in the East, with the intention of visiting India, Ceylon, and possibly Egypt.

Reports of Companies.

THE ALUMINIUM CO., LTD.

The report of the directors for the twelve months ended June 30th states that their forecast regarding the value of the new patents belonging to the company has been realised, and that the general business of the company at Oldbury continues satisfactory. The accounts show a gross profit of £16,901. for the financial year. After providing for debenture interest, amounting to £7,497., and other fixed charges, there remains a balance of £3,901., which, with the sum of £1,475. brought forward from last year, makes the sum of £5,376. available for distribution. Out of this the directors recommend the payment of a dividend of 5 per cent. for the year on the "A" shares, which will absorb £3,000., leaving a balance of £2,376. to be carried forward. The shareholders have been informed of the agreement entered into in January last with the Mathieson Alkali Company of America for the sale of the Electrolytic Alkali patents for the United States, and the directors have to report that the plant has been completed, and is now being put into operation. The company are to receive, upon the satisfactory running of the plant, the sum of £65,000., payable as to £30,000. in cash and £35,000. in shares, besides substantial royalties calculated on the output, with a minimum sum guaranteed during the life of the patents. In October last an agreement was concluded with Messrs. Solvay and Cie., who are the owners of the Kellner Alkali patents, for a combination of both the Castner and Kellner patents, for the mutual advantage of the Aluminium Company and Messrs. Solvay and Cie. The Aluminium Company, under this arrangement, obtained the sole right to work the combined patents in England and the Colonies, and Messrs. Solvay and Cie. the sole right to work the same patents on the Continent. The agreement also makes provision that both companies shall work in friendly alliance for at least twelve years, and the Aluminium Company receive a sum of £5,000. as an extra consideration for such agreement. This arrangement enabled the directors to sell the Castner patents with the benefits of the agreement with Messrs. Solvay and Cie. (other than the right to receive the said sum of £5,000.) to the Castner-Kellner Alkali Company, Limited, for the sum of £125,000., payable as to £25,000. in cash and as to £100,000. in shares. Some intimation was given to the shareholders at the last meeting as to another important chemical process invented by Mr. Castner. So successful has this last process proved to be that an arrangement has been concluded between this company and one of the largest and most influential firms in Germany for the sale of the American patents, together with certain other manufacturing privileges. This company will receive the sum of £10,000. (£5,000. of which has already been paid) and 30 per cent. of the share capital of the American company now being formed, the capital of which has been guaranteed by the German firm. This leaves the Continental and British patents still to be disposed of, and, as negotiations are pending for their sale, it is deemed advisable to make no further announcement. The directors consider that any depreciation on the patents and on the works at Oldbury is more than covered by the developments in respect of patents which stand on the books of the company at comparatively nominal figures. It is decided to pay off the £12,000. ten per cent. "B" debentures which fall due on January 1st, 1896. The directors are also making arrangements for reducing the present £6. per cent. debenture debt by paying off the present issue, and, if necessary, raising a much smaller loan at a lower rate of interest.

SAN PABLO NITRATE CO., LTD.

The annual general meeting of this company was held last week at Winchester House. Mr. Robert Harvey, who presided, remarked that, considering the low price of nitrate, he thought the shareholders had every reason to congratulate themselves on the healthy state of the balance-sheet, which showed a profit equal to 10 per cent. on their capital, although it was not proposed to pay a dividend of more than 5 per cent. The falling off of about £2,000. in the profit, as compared with that of the previous year, was caused by no fault in the works or on the part of the employés or directors. It was simply the inevitable result of scarcity of labour in the first half of the year, and over-production in the second half. At the conclusion of certain political events in Chili the large army in that country was disbanded. The greater part of the men thereupon migrated to the north, and became workers in the nitrate districts, and, as a consequence, the calculation that during the past year there would be no excessive production had been upset. Owing to the sudden influx of these workers during the latter six months the production had been very large, with the result that the price of nitrate had fallen so low as to leave barely any profit on its manufacture. For the past nine months the nitrate committee had been working very hard to formulate a scheme for the limitation of production, and on several occasions they had been on the point of

success, but unfortunately there had been a few dissentient companies which prevented the proposed combination from becoming an actual fact. During the last week, however, they had come closer than before towards the successful formation of a combination, as every company had agreed to join except one, and they had great hopes that that company would not persist in standing aloof, as the suicidal fight going on between the nitrate producers could only benefit the consumers. He had to tell the shareholders for their guidance that the San Pablo Company's directors had not thought fit to take any part in that fight. As soon as they found themselves unable to sell nitrate at a profit they ceased to manufacture it, and proceeded, instead, to lay by stocks of *caliche*, so as to be prepared to turn it into nitrate of soda when the state of the market justified their doing so. During the year they had made 116,000 quintals of nitrate, on which they had obtained a fair profit. The rise that had taken place in the rate of exchange—from 11¼d. at the commencement of the financial year to 17½d. in June last—had been in their favour, and made the company's earnings appear better than otherwise would have been the case. After stating that their machinery and works generally were in good condition, he moved the adoption of the report, which was seconded by Mr. J. J. Smith. Replying to various shareholders, the chairman said that their stocks would, on realization, yield a fair profit on the amount at which they were valued for the purpose of balance-sheet. They were not manufacturing at present, but as soon as the combination became *un fait accompli*, or the price of nitrate advanced, they would resume operations. Meanwhile they were extracting the raw material for future use. The report was agreed to.

PRIMITIVA NITRATE COMPANY, LTD.

The directors of this company have issued a circular stating that in June, 1896, the sum of £7,500. must be paid to the Government of Chili, being the balance due on the purchase of the Modesta grounds, which it was hoped would have been paid out of earnings; but as these have ceased, and as the company is without available funds, it is absolutely imperative that a sufficient sum of money should be raised to discharge not only this liability, but also to pay off a debit balance due to the company's bankers in Iquique—say, in all a sum of £20,000. With the view of raising the necessary capital to enable the business of the company to be successfully carried on, the directors are of opinion that a reconstruction of the company should take place. To effect this it is proposed to wind up the existing company and to form a new company with the same name for the purpose of acquiring the present undertaking with all its assets, rights, and liabilities. It is proposed that the new company should have a nominal capital of £40,000., divided into 40,000 shares of £1. each, with the sum of 10s. per share credited as paid up, there being, therefore, a liability of 10s. per share. Every member of the present company, or his nominee, would be entitled on application to an allotment of one £1. share in the new company, with a liability of 10s. in respect of every share held by him in the existing company, provided such member sends in to the company within a limited time (to be fixed) a request in writing for such allotment. The meeting on Wednesday was adjourned for the presentation of accounts. Particulars next week.

THE ANTITOXINE TREATMENT.—The official statistics of the cases of diphtheria treated by the antitoxic serum, which have just been published, give some interesting details as to the success of the new method. The investigation on this subject was set on foot by the Ministry of Medicinal Affairs, which addressed its inquiries to physicians, both in public and private practice. Answers to the number of 1,349 were returned, dealing with 6,626 cases, of which 2,460 were treated in hospitals. Out of the total of 6,626 patients, 86.5 per cent. recovered and 12.9 per cent. died, while the remainder were still under treatment. Of the hospital patients 80.5 per cent. recovered and 19.5 per cent. died. The mortality was highest (34 per cent.) in the Government district of Liegnitz, and lowest (7 per cent.) in that of Munich. In 4,871 cases the physicians expressed their views as to the value of the antitoxic serum. In 55.6 per cent. of these cases the remedial effects of the serum are characterised as certain, and 30.8 per cent. as probable, while in 13.6 per cent. the method apparently produced no effect. The serum was described as "decidedly harmful" in only 60 cases, of which 42 recovered and 18 died, and as "innocuous" in 4,544 cases. In these 60 cases the patients suffered from cutaneous eruptions, albuminuria, pains in the joints, disturbance of the heart's action, nephritis in three cases, and general debility. It is not, however, believed that the inquiry has proved that such symptoms are of more frequent occurrence in consequence of the antitoxic treatment, though cutaneous eruptions and pains in the joints may, it is thought, be looked upon as likely to accompany the method. The authorities have come to the conclusion that the treatment with the serum exercises a favourable influence on the course of the disease, and that a continued employment of it is justified.

Correspondence.

not hold ourselves responsible for the opinions expressed by our correspondents.

ESTIMATING GELATINE IN GLUES.

To the Editor of the Chemical Trade Journal.

Would one of your readers be good enough to advise me of the best method of estimating the amount of gelatine in glues?—
APPRENTICE.

THE TEBESSA PHOSPHATE DISPUTE.

REFERENCE was made in these columns recently to the French Ministerial decree lately issued, rendering the Tebessa Concession about two years ago to the Constantine Phosphate Co., or null and void. In consequence, Mr. Jacobsen, the managing director, once proceeded to Paris and engaged the services of one of the most eminent advocates, in order to appeal against the decree and take the matter to the law courts. In the course of a press conference he made the following interesting statement:—

Attention of the public was first called to the existence of phosphate deposits in Algeria by the failure of an English company which had sunk more than £40,000. in a concession in the province of Constantine. The sample of the stuff was first brought to me by the name, a Mr. Wetterle, of Suk Ahras, but the test was so unfavorable that I declined to have anything to do with the concession. The engineer subsequently bought and worked with advantage. His success attracted the attention of other people in Algeria, and in 1893 a Mr. Bertagne, Mayor of Bona, after having been offered to a number of French manufacturers connected with the phosphate trade a concession which he had obtained, called on me for assistance. I bought his rights at once, and subsequently transferred the present company with a capital of £150,000. in fully paid up shares. The concession was duly transferred, and we now stand as the acknowledged baseholders of the phosphate quarries of Djebel-

once started working and prepared for exploitation on a large scale. The deposits being situated in a distant and inaccessible region we had to overcome enormous difficulties and spent nearly £100,000. in preliminary expenses. In 1894 we commenced building the railway, every part of which was ordered in France, although we had been supplied on better terms by England or Belgium. In consequence of this I might mention that French industry has been benefited by us to the amount of £60,000., that our principal clients are French. This I say in order to show that the absurd accusation that foreign manual labour is employed at our mines.

When we had started to work and demonstrated the great value of the property which French enterprise refused to work, the dispute developed into active agitation. The Opposition organs were the first to raise the cry by accusing us of having been robbing the French nation of enormous sums. This was done by the Opposition both in the Chamber and the Senate. Pauliat asserted that the concession, which he declared was obtained by fraud, would deprive the nation of a sum of 108 millions of francs. The result of this campaign was that a commission was appointed. It proceeded to Algeria and drew up a report, but it was never published.

The alleged irregularity consists in the fact that the concession was granted by a decree of the Governor; but, according to the law, no concession is valid unless it is confirmed by the Communes Council. It is not required at all, the usual course being for the Governor to confirm the concession which is granted by the Communes Council. Although we were assured on all hands and by the Minister of Algeria that the above prefectural confirmation was not required, and that all the formalities connected with the grant had been completed as far as possible, we, as an extra precaution, requested the Governor-General of Algeria to countersign the deeds; but in consequence of this the concession was not confirmed. It was then distinctly stated both to us and to the other Scotch concessionaires that his signature was in no way required, and that this was *en dehors de ses attributions*.

We intend to oppose the decree by all legal means at our disposal. I believe that we cannot but be backed by our own Government, and we have already submitted our case, and who, we understand, have already made official representations to the French Government.

A PAPER MILL.—A very serious fire broke out this week in the Paper Mills, belonging to Mr. S. Pollitt, and before the fire could be subdued a portion of the buildings and their contents were completely destroyed. A son of the proprietor met with a serious accident owing to falling through a glass roof.

Trade Notes.

THE METRIC SYSTEM IN LIVERPOOL.—At the last meeting of the Liverpool Chamber of Commerce, while the report of the Parliamentary Committee on Weights and Measures was being discussed, the President said that while the Chamber was committed to the decimal system he did not think it would be wise for them at the present moment to subscribe to the proposed memorial to Mr. Balfour, which asked, among other things, that the metrical system should be made compulsory by Act of Parliament after the lapse of two years.

POLLUTION OF THE IRWELL.—Mr. R. Walton, M.I.C.E., an inspector of the Local Government Board, held an inquiry at the Co-operative Hall, Blackley, on Wednesday, with respect to offences alleged to have been committed by Messrs. Ivan Levinstein and Co., of Crumpsall Vale Chemical Works, under section 5 of the Mersey and Irwell Joint Committee Act, 1892.—Mr. Sutton, who represented the Joint Committee, explained the nature of the complaint.—Mr. Charles Leopold Samson, for Messrs. Levinstein, said he could shorten the inquiry by at once admitting that the effluent was not satisfactory, according to the Act of Parliament. The firm were very desirous of conforming to the Act, and they had spent large sums of money in endeavouring to do so satisfactorily. What they had done, however, turned out not to be enough, and they were prepared now to extend the works of purification. They hoped then to obtain a perfectly good result. Mr. Levinstein had been on the Continent, otherwise the present proceedings might have been avoided. He was prepared, on behalf of the firm, to submit to an order being made. The Joint Committee would, no doubt, suspend the execution of the order for a reasonable period, so as to give Messrs. Levinstein time to fulfil their promises.—Mr. R. A. Tatton, chief inspector for the Committee, gave formal evidence as to pollution.—Mr. F. Scudder, chemist, said the effluent was a bad one. He believed that Messrs. Levinstein had done all they could to purify it, but it was the most difficult effluent to deal with that had come under his notice. At the same time he believed that by larger works a considerable improvement could be made.—Mr. Sutton said Messrs. Levinstein had no doubt brought back to this country a most valuable industry, and for this the community was indebted to them. At the same time the Joint Committee were bound to carry out the law, with whatever reluctance. No doubt the Committee would treat the case in a reasonable way.—Mr. Samson said his clients would spare no expense in endeavouring to treat the effluent in a most satisfactory manner.—This concluded the inquiry.

NOTICES.

LONDON AGENTS

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Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed MONEY ORDER* is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in tracing and acknowledging foreign remittances is inevitably entailed in this country.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols keep firm, with a moderate demand, 90's being worth about 1s. 4d., and 50/90's 1s. 3d. Carbolic acids are steady, 60% crude being quoted 1s. 6½d. to 1s. 7d., and 40% crystals 5¾d. There is no change in crude naphtha, but solvent is firmer, quotation now being 1s. 3d. Creosote and anthracene are unchanged. Pitch a shade easier at 38s., f.o.b. East Coast.

The demand for sulphate has fallen off very markedly, and in consequence prices as quoted are low. There does not appear to be much doing, however, at the values now quoted. Beckton stands at £9., London outside makes £8. 15s., Liverpool £8. 17s. 6d., Hull £8. 15s., and Leith £8. 15s. In forward, makers so far are steadily refusing sellers' offers of £9. Nitrate quiet.

LIVERPOOL MINERAL MARKET.

Our market continues firm, with every prospect of an early advance in prices all round. Manganese: Arrivals continue *nil*, and prices are firm, but unaltered. Ground manganese: The demand continues good at unaltered prices—£6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore continues in fair request, but the prices are unaltered. Chrome ore: There are two small arrivals to report, but they do not come on to the market, being sold to arrive, and therefore prices are firm, with an upward tendency. Bauxite continues in good request; prices are unchanged at 20s. per ton for first quality, 16s. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. French chalk: Although the arrivals are somewhat increased, stocks are practically *nil*, the consumption having materially improved, and prices are therefore firm at 70s. to 75s., 80s. to 90s., and 100s. to 110s. per ton for "Angel White" brands, according to quality, with the prospect of an advance. Wolfram and scheelite continue steady, with the probability of higher figures. Arsenic meets with a strong demand. Fuller's earth is easier, but prices are unchanged—50s. for lump, powdered 55s., and impalpable powder 75s. to 80s. per ton. Ochres and umbers continue steady. Sulphate and carbonate of barytes: The production has improved, and the demand continues steady at unaltered prices. Bog ore is in fair request, and bringing full prices—22s. 6d. to 25s. per ton. China clay firm at unaltered figures—20s., 30s., and 35s. per ton, according to grade. Plumbago continues to meet with a good demand for foundries' and lubricating purposes at £6. to £10. per ton, according to quality. Kieselguhr is in increasing demand, and bringing higher prices.

MISCELLANEOUS CHEMICAL MARKET.

Business in the alkali trade continues fairly brisk, both for prompt and forward, and specially for export. Prices all round are very steady: Bleaching powder, £7. 7s. 6d. to £7. 10s., f.o.b. Liverpool, and £7. per ton f.o.r. makers' works. For caustic soda spot quotations are unaltered, viz.: F.o.b. Liverpool, 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 60%, £6. 10s. nett per ton, 10-ton lots and upwards. Alkali, 58%, £3. 7s. 6d. per ton, bags, at makers' works, and £3. 17s. 6d. to £4., casks, f.o.b. Soda crystals quiet, but without change in price: Bicarbonate, £6. 15s. f.o.b. Chlorate of potash, 4½d. per lb., spot delivery; forward delivery rather easier. Chlorate of soda scarce at 6½d. to 6¾d. per lb. Saltcake firmer at 25s. per ton, f.o.r. makers' works, and likely to advance further; considerable business has been done for forward delivery at the advanced prices. Nitrate of soda easy on the spot at 7s. 6d. to 7s. 7½d., but with firmer tendency forward. Sulphate of copper is a steady market at £16. 10s. to £16. 15s. f.o.b. For potash, caustic and carbonate, the demand continues good, and prices are firm. Prices are a little firmer for acetate of lime, brown and grey, but no large amount of business is being done. Acetic acid and other acetates are all very flat. Ammonia and salts, except sulphate, are generally in good demand at market rates. White powdered arsenic still difficult to obtain, owing to limited supply, and prices firm at £15. 10s. to £16. f.o.r. Garston. Yellow prussiate of potash, 7½d. to 7¾d., according to make. Green copperas is in better request, and higher prices are ruling. The reports of trade, generally, in chemicals do not as yet point to any marked improvement in values.

LIVERPOOL OIL AND COLOUR MARKET.

OILS.—Palm oil is dull, and transactions are few in number, either for prompt or to arrive. Olive continues steady, but quiet. Linseed keeps firm, holders quoting 21s. 6d. to 22s. per cwt. for Liverpool makes in export casks. The demand for cottonseed is decidedly weak, but as yet prices are unchanged, American standing at 17s. 6d. to 17s. 9d., and Liverpool refined at 17s. 9d. to 18s. 3d. per cwt. Fish oils firm, and selling at 14s. 3d. per cwt. Castor oil is moderate, both in regard to position and value; good seconds Calcutta stands at 2½d., and first pressure French 2¾d. to 2¾d. per lb. Tallow shows signs of increased firmness, but there is no material change in prices so far. Resin continues as firm as last quoted, with a very satisfactory demand at the current values. Spirits of turpentine have declined a point. There is a moderate business doing at 20s. 6d. per cwt. Petroleum steady: American 6d. to 7½d., and Russian refined 5¾d. to 6d. per gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15. Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead unchanged. Venetian red, £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide, £22. 10s. to £25.

REPORT ON MANURE MATERIAL.

There is still no improvement in the market, but prices are fairly maintained. Quotations for mineral phosphates are unchanged. There is very little business doing, prices scarcely admitting of any further reduction. Manure makers seem altogether disinclined to go further ahead, autumn export business having been disappointing prospects for the coming spring season not being so far very bright. River Plate bones are finding a less ready sale. Cargoes of bones are worth about £4. per ton, delivered to good United Kingdom and those of large size not over £3. 17s. 6d. per ton. Nearest crushed Kurrachee bones is £4. per ton, ex quay Liverpool, autumn shipment, and Bombay bone meal may be had at the same price. Common grinding bones would fetch £3. 10s. to £3. 15s. per ton, according to description and condition, ex quay Liverpool. Soda ash is a shade better in the forward position, it being reported the combination of producers has been practically agreed to, report requires confirmation. Spot is unchanged, the quotation quality being still 7s. 9d. per cwt.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, dull: Scotch warran at 46s. 5½d.; Middlesbrough, 37s. 9d. cash, and hematite, 40s. Copper, firm: Chili bars, G. O. B.'s and G. M. B.'s at £44. 11s. 3d. to £44. 16s. 3d. cash, and £44. 18s. 9d. to £44. 19s. 3d. three months. Tin, steady: Straits closed at £65. 10s. to £66. 10s. three months; Australian, £66. 10s. quiet: Spanish, £11. 7s. 6d.; English, £11. 10s. to £11. 11s. Silesian spelter, ordinary, £15 5s. Nickel, 1s. 1½d. Antimony, 1s. 1½d. Quicksilver: first hands, £7. 7s. 6d.; second hands, £7. 6s. 6d. Shares, steady: Cape, 2½ to 2½; Copiapo, 1½ to 1½; Lithium, 3½; Mason and Barry, 2½ to 2½; Rio Tinto, 16½; Tharsis, 4½ to 5.

GLASGOW, WEDNESDAY.—Market better, with moderate Scotch done at 46s. 6½d. and 46s. 5½d. cash, also at 46s. 46s. 8d. one month; closing with buyers at 46s. 5½d. cash, and 46s. 6d. Cleveland done at 38s. one month; closing with 37s. 9d. cash, sellers ask 37s. 9½d. Cumberland hematite 47s. 5d. cash, also at 47s. 7½d. and 47s. 8d. one month; closing with buyers at 47s. 4½d. cash, sellers ask 47s. 5½d. Middlesbrough hematite closes with buyers at 45s. 4½d. cash, sellers ask 45s.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

The condition of the market for sulphate of ammonia is feeling extreme as regards this section, and if values have not gone the run to a much further extent, it is because the makers have sort of stand. The demand is very small, and the few transactions prompt during the past week have in no case gone above 5s. There is nothing done anew for forward. Some buyers are about 5s. over the present prompt figures, but sellers are not contently reduced to look at that. Mineral oils and paraffin unchanged, so far as deliveries ex contracts are concerned, though large, but the position as regards good faith between the vendors of the finished paraffin products is not quite satisfactory. Last week's meeting of candlemakers in London it is understood two of the smaller works were excluded from the compact, as the market in general chemicals is quiet, at about the old stocks being moderate.

Chief prices current are:—Soda crystals, £2. 2s. 6d., home, and soda ash, 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white ash, 48/52°, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. Glasgow; caustic soda, white, 74° £9., 70/72° £7. 15s. £6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; powder, £6. 15s. to £7. nett, Tyne; saltcake, 22s. 6d.; borax refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, 1 bichromate of potash, 4½d. nett, for Scotch and English delivery, 4½d. nett, f.o.b. Glasgow; bichromate of soda, 3½d. Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 4½d. less 5%, Liverpool; nitrate of soda to 8s.; sulphate of ammonia, £8. 12s. 6d. to £8. 15s., prompt; Leith; sal ammoniac, first and second white, £39. and £37. port; sulphate of copper, £16. 15s., less 5%, Liverpool; scale, hard, 2½d., and soft, 1¾d. to 2¾d. per lb.; paraffin v semi-refined, 2½d. to 2¾d.; paraffin spirit (naphtha), 8½d. per gallon; paraffin oil (burning) No. 1, 6½d., and crystal, 6¾d., for Scotch buyers (English sales about 1d. lower); ditto (in 865° £4. 7s. 6d. to £4. 15s., 885° £5. to £5. 5s., and 890° 10s. to £6. 10s. Week's imports of sugar at Greenock bags beet unrefined.

LL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

—The demand has been steady, with prices little changed. The into Hull from January 1st to November 1st compared during period a year ago have been: Linseed, 529,618 qrs., against qrs. Rapeseed, 127,758 qrs., against 115,907 qrs. Cotton- 5,743 tons, against 138,907 tons. Olive oil, casks, 11,090, 0,291 casks. Rape oil, 6,658 casks, against 6,768 casks. Oil- 4,241 tons, against 14,844 tons. Tallow, 11,468 cwts, against wts. Bones, 3,144 tons, against 7,258 tons. Turpentine, arrels, against 16,199 barrels. Linseed oil quiet at 19s. 9d. to ked spot, November-December, 19s. 4½d; January-April, 1 May-August, 18s. 9d. Boiled and refined from £1. to £1. ton, extra. The export for the week has been 1,680 cwts. cotton oil steady at 15s. 6d. naked spot, November-April, 15s. crude, 14s. 3d., November-April buyers; casks, 17s. 6d., and barrels 30s. per ton extra. The export for the week has been ts. of refined spirits of turpentine, 21s. 3d. Cod oil from £17. per ton. Olive oil from £32. to £35. per tun. Boiled oil, £13. per ton. Liquid soap, £16. per ton. Castor oil r lb. for first pressure.

TS.—Linseed cakes firm, 95% pure, £6. 5s. to £6. 10s. per ton. s, from £5. 5s. to £6. 10s. per ton. Russians, £5. 12s. 6d. to ton cakes in good demand, ready cakes scarce; best makes, 4. 2s. 6d.; seconds, £3. 15s.; best makes, December-April, Rape cakes unchanged.

TS.—The demand for these commodities is only quiet, the which are: White and red leads unchanged, also oxide of me attempt is being made to enhance the value of leads, but re is little alteration. Black, blue, yellow, yellow ochre, oxide /enetian red paints from £11. per ton. Paint remover, 25s. Ready mixed prints, in bulk, 17s.; packed in lever tins, £24. Dry colours unchanged. Imperial black varnish, £5. 10s.

TYNE CHEMICAL REPORT.

TUESDAY.

als are quiet, and prices still on basis of £2 2s 6d. to per ton gross weights for soda crystals, £7. to £7. 5s. per ton hing powder. Sulphur scarce, at £3. 17s. 6d. per ton. Ship- ntinue fairly good, and only moderate stocks are held. ing powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton, ustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. ett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per t; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. ett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. ton, nett; do., 52%, £5. per ton, nett; hyposulphite of

soda, 5-7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 5s. per ton, gross weight; do., 2 cwt. bags, £2. 5s. per ton, nett weight; chlorate of potash, 5d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

SALT.—South Durham salt is unchanged, at 9s. 6d. per ton, f.o.b., Tees.

COALS.—The market generally is dull, and prices unaltered. There is a large demand for coke, and for forward delivery makers are asking higher prices. To-day's quotations are as under:—Best Northumbrian steam, 8s. 3d. to 8s. 6d. per ton; second qualities, 7s. 3d. to 7s. 6d. per ton; small steam, 4s. to 4s. 3d. per ton; household coals, 10s. to 10s. 6d. per ton; gas coals, 6s. 9d. to 7s. per ton; coke firm, 14s. 6d. to 15s. per ton.

New Companies.

Oldham Paint Co., Ltd.—CAPITAL £1,000., in £1. shares. This company has been formed to manufacture and deal in paints, colours, varnishes, glue, size, &c.

Wm. Black and Sons, Ltd.—CAPITAL £130,000., in shares of £10. each, of which 4,000 are preference and the rest ordinary shares. The company has been formed to take over as a going concern several collieries situate in Scotland, and also the Stanrigg Oil Co., Airdrie, N.B. The subscribers to the memorandum of association are:—W. Black, Stanrigg, Airdrie, coalmaster; T. Jeffrey, Airdrie, coalmaster; G. E. Black, Ayr, coalmaster; J. W. Alston, Coatbridge, writer; W. B. Rankine, 54, Queen-street, Edinburgh, W.S.; J. Watt, 18, George Square, Glasgow, cashier; J. Prentice, Whiterigg, Airdrie, colliery manager.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

W. CROSFIELD, C. J. CROSFIELD, and G. SCHACK-SOMMER, Liverpool, sugar refiners, under the style of Crosfield, Barrow and Co., as far as regards G. Schack-Sommer.

J. MEWSE and H. HENSON, boiler composition manufacturers, Chilwell, under the style of the Chilwell Boiler Solvent Company.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

ending October 26th.

Lime—
10 pks. J. Barber & Co.
of Lime—
1,318 pks. Johnson & Hooper
Acid—
5 pks. F. Stahlschmidt & Co.
4 pks. G. Rahn & Co.
16 Ryley & Co.
2 pks. Pickford & Co.
380 Ohlenschlager Bros.
20 pks. Hyslop & Symons
Girard Frs. & Co.
216 W. Byford
800 J. Barber & Co.
550
46 cks. J. Kitchen
67 J. L. Lyon & Co.
120 Burrell & Co.
33 P. Jantzen

Holland, 213 W. Harrison & Co.
Belgium, 33
Holland, 15 J. Dickinson & Co.
Boracic Acid—
Italy, 9 pks. B. & N. Wf. Co.
Boric Acid—
Germany, 8 pks. F. Boehm
Camphor—
Japan, 465 pks. Hale & Son
Caoutchouc—
E. Indies, 13 c. Ralli Bros.
Penang, 78 Prop. Bull Wf.
U. States, 15
Madagascar, 1
E. Indies, 2 D. Gray & Sons
Penang, 65 E. Boustead & Co.
E. Indies, 16 S. Figgis & Co.
Castor Oil—
France, 3 cs. W. G. Frith & Co.
Italy, 27 Stebbing & Co.
France, 37 brls. A. Foulon
Caustic Potash—
France, 100 c. F. W. Berk & Co.
Belgium, 200 Petri Bros.
Chemicals (otherwise undescribed)
Germany, 35 pks. A. & M. Zimmermann
Belgium, 8 cs. T. Palmer
Germany, 15 Petri Bros.
" 22 L. & I. D. Jt. Co.

Germany, 56 10 cs. T. H. Lee
France, 110 Mory & Co.
Germany, 4 Phillpps & Graves
" 7 cks. R. W. Greeff & Co.
Holland, 20 Typke & King
Copperas—
Germany, 28 pks. City Coml. Wf.
Cream of Tartar—
Holland, 20 pks. Kirkpatrick & Co.
France, 10 W. C. Bacon & Co.
" 10 F. C. Devon & Co.
" 23 B. & F. Wf. Co.
Dextrine—
Germany, 50 pks. M. D. Co.
" 100 Ross & Deering
Dyestuffs—
Annatto
France, 4 pks. B. & F. Wf. Co.
Argols
Italy, 701 pks. Thames S. T. & L. Co., Ltd.
Cochineal
Canaries, 3 pks. J. W. Boiland
" 8 G. S. Bruce
" 5 Kuhner, Henderson & Co.
" 12 Swanston & Co.
" 10 Sperling & Williams
Extracts
Canada, 120 pks. A. J. Humphrey

Canada, 80 Furness, Withy & Co.
U. States, 103 Anderson, Weber & Smith
France, 10 T. H. Lee
" 10 Bailey & Leatham
" 235 L. J. Levinstein & Sons
Gambler
Singapore, 233 pks. Union L. Co.
" 147 L. & N. W. Rly.
" 229 W. Balchin
" 453 G. Ward & Sons
" 455 Sollas & Sons
Indigo
E. Indies, 6 chts. Croysdale & Co.
" 20 L. & I. D. Jt. Co.
" 15 R. Von Glehn & Sons
" 29 Wallace Bros.
" 1 Arbuthnot, Latham & Co.
Naphthaline
Germany, 39 cks. Fleming's Oil Co.
Saffron
Spain, 1 pk. Middleton's S. S. Wf. Co.
Sumac
Italy, 450 pks. Beresford & Co.
" 70 R. Waters
" 40 H. Johnson & Sons
Tanner's Bark
Belgium, 21 t. Sawyer, Sons & Co.

Turmeric E. Indies, 100 pks. L. & I. D. Jt. Co. " 100 J. P. Alpe & Co. " 82 Hoare, Wilson & Co.	Germany , 28 Poth, Hille, & Co. " 20 Abbey, Abbey, & Co.	Ulamarine — Holland, 4 cks. Magee, Taylor, & Co. Germany, 2 cks. H. Brooks & Co. Holland, 5 cks. Philipps & Graves " 6 cs. Haefner, Hilpert, & Co. " 1 W. Harrison & Co.	Bordeaux , 100 cks. Marseilles, 100 Fiume, 705 New York, 66 E. Schwa
Valonia A. Turkey, 5 c. J. Knill & Co. " 20 t. S. Barrow & Brs., Ltd.	Ceylon , 271 cks. Soundy & Sons N. Zealand, 205 R. G. Hall & Co. Ceylon, 85 70 brs. Beresford & Co. " 38 J. Thredder, Son, & Co. " 627	Varnish — U. States, 14 pks. L. & I. D. Jt. Co. Germany, 3 T. H. Lee Belgium, 3 Flageolet & Co. France, 7	Paetic Colon, 326 ps. W. Duranty & Co. Savanilla, 2,193 logs G. H. Ma
Dyestuffs (otherwise undescr.) France, 8 bls. W. Burton & Sons	Potash — Germany, 100 c. F. W. Berk & Co.	White Lead — Germany, 2 cks. L. & I. D. Jt. Co.	Gambier Singapore, 6,434 bls. 43 bgs. Myrabolams Bombay, 53 bgs. D. Sam
Farina — Germany, 10 pks. Ohlenschlager Brs. France, 6 Hernu, Peron & Co. U. States, 175 J. Barber & Co. Holland, 50 T. H. Lee " 50 J. Knill & Co. " 100 Dunlop Brs. " 100 Cole & Carey " 100 G. Hornzee " 175 Prop. Dowgate Dk. " 100 R. G. Hall & Co. Germany, 200 Seaward Brs. " 200 C. Tennant, Sons & Co.	Potassium Bicarbonate — Germany, 8 pks. A. & M. Zimmermann	Yermillon — Germany, 2 cks. L. & I. D. Jt. Co.	Myrabolams Bombay, 53 bgs. D. Sam
Glucose — Germany, 500 pks. 500 c. Baxter & Hoare " 24 193 c. Deerin & Robottom U. States, 1,000 1,000 Ohlenschlager Brs. " 109 620 Union L. Co., Ltd. " 50 310 C. Southwell & Co. " 250 250 Page, Son & East " 1,425 6,038 R. G. Hall & Co. " 900 900 E. Dixon " 1,000 1,000 G. Clark & Son " 600 600 Fellows, Morton & Co. " 250 250 Beck & Pollitzer " 1,350 1,350 L. Sutro & Co. " 650 3,618 T. M. Duche & Sons " 3,250 3,250 Pearce, Pelley & Co.	Potassium Carbonate — Holland, 87 c. A. J. Luke & Co. France, 100 A. J. Smith Potassium Chloride — Germany, 700 pks. F. W. Berk & Co. Potassium Permanganate — Germany, 5 pks. Domeier & Co. Pumice Stone — Italy, 5 t. G. S. N. Co. " 8 10 c O'Hara & Hoar " 3 16 G. Harvey " 5 Bott & Nich's Whys. Co.	Wood Pulp — Germany, 4 pks. Philipps & Graves Norway, 2,250 W. E. Bott & Co. Sweden, 725 E. J. & W. Goldsmith " 476 C. S. Lovell " 980 Henderson, Craig, & Co. Germany, 480 H. Lambert Holland, 1,739 E. J. & W. Goldsmith " 243 W. G. Taylor & Co. Sweden, 544 Norway, 1,200 Christophersen, Andrews, & Co. Sweden, 58 Thames S. T. & L. Co.	Farina — Fiume, 140 bgs. Glucose — New York, 450 brs. Boston, 4 G. E. B. " 420 Glue — Marseilles, 59 pks. Hamburg, 20 bgs. Rotterdam, 46 1 cks. 8 cs.
Glue — " £736	Pyrites — Spain, 1,900 t. Naylor, Benzon, & Co.	Zinc Oxide — U. States, 100 cks. M. Ashby, Ltd. Germany, 1 H. Lambert " 50 Burrell & Co. Holland, 28 Beresford & Co. Germany, 82 M. Ashby, Ltd. Holland, 500 Soundy & Sons	Limestone — Antwerp, 1 crt. J. T. Fle
Iodoform — Japan, 4 pks. H. Abrens & Co.	Quicksilver — France, 15,000 lbs. H. Bath & Son	LIVERPOOL. Week ending October 24th.	Mica — New York, 17 brs.
Lead Acetate — Germany, 45 pks. F. Boehm	Rosin — U. States, 702 brs. Prod. Brokers' Co. " 60 American Trading Co. " 250 Moore & Hoie " 300 F. & S. Chiesman & Co.	Acetate of Lime — New York, 180 bgs.	Minium — Rotterdam, 6 cs.
Litharge — Germany, 8 cks. H. Lambert	Saltpetre — Germany, 68 cks. P. Hecker & Co. " 50 J. Hall & Son	Aluminium — Rotterdam, 2 cks.	Paraffin Scale — Baltimore, 100 brs. New York, 375 Rangoon, 350 bxs.
Magnesia — Holland, 3 pks. Beresford & Co.	Silica — Germany, 30 t. A. Haacke & Co. Belgium, 432 W. Harrison & Co.	Aniline Dyes — Hamburg, 3 cs.	Phosphate — Ghent, 995 bgs. J. T. Fle
Manganese — Germany, 1 t. H. Lambert	Soda — Holland, 120 c. Beresford & Co.	Bone Meal — Bombay, 1,000 bgs.	Potashes — Montreal, 27 brs. Antwerp, 2 cks. J. T. Fle
Manure — E. Indies, 100 t. A. Hunter & Co. Germany, 12 M. D. Co. " 50 Perkins & Homer	Sodium Acetate — France, 8 pks. Arnati & Harrison	Borax — Valparaiso, 1,925 sks.	Potash Salts — Hamburg, 105 bgs.
Methyl Alcohol — Holland, 24 cks. T. V. Tucker Germany, 11 dms. F. H. Mayes U. States, 100 brs.	Sodium Hyposulphite — Holland, 80 pks. Eeresford & Co.	Caoutchouc — Havre, 44 cks. Cunard S. S. Co., Ltd. Valparaiso, 77 bls. J. H. Schroeder & Co. " 10 W. Brandts, Son & Co.	Pyrates — Huelva, 3,475 t. Man
Mica — France, 490 G. G. Blackwell, Sons & Co. E. Indies, 100 Allen Brs. " 840 W. M. Smith & Sons Germany, 28 L. & I. D. Jt. Co. Ceylon, 16	Starch — Holland, 120 pks. G. Rahn & Co. Germany, 50 T. H. Lee " 50 J. Hall, jr., & Co. Holland, 1,195 Little & Johnston Belgium, 1,350 E. & T. Pink Holland, 130 Philipps & Graves France, 5 City Coml. Wf " 50 A. J. Smith " 15 A. Dunn Germany, 1,681 Horne & Co. France, 50 E. & T. Pink Belgium, 40 Leach & Co. " 312 F. Claydon & Co. Holland, 216 T. H. Lee	Castor Oil — Marseilles, 311 brs. 20 cs. 9 pks.	Salt — Hamburg, 1 kg.
Naphtha — Holland, 2,896 galls. Burt, Boulton & Co.	Sulphur — France, 6 t. Magee, Taylor, & Co. Italy, 10 F. & L. Sitzler " 100 Johnson & Hooper " 10 F. Smith " 300 W. C. Bacon & Co. " 250 T. Farmer & Co.	Colours — Antwerp, 5 cks. Ghent, 6 cs. J. T. Fletcher & Co. " 4 brs.	Saltpetre — Hamburg, 175 kgs.
Ochre — France, 41 cks. J. Burnett & Sons " 67 W. Harrison & Co. " 8 M. D. Co. " 4 Prop. Hay's Wf. Holland, 25 pks. Philipps & Graves France, 104 T. Cartwright " 21 cks. Burrell & Co.	Sulphurous Acid — Holland, 10 pks. H. Lorenz	Copper Acetate — Marseilles, 10 brs.	Soap — New York, 927 brs. Boston, 66 Newport News, 340 Marseilles, 7 cs. G. G. Ma " 198 245 pgs.
Paint — Germany, 1 ck. T. H. Lee	Talc — E. Indies, 65 L. & I. D. Jt. Co.	Copper Sulphate — Baltimore, 18 brs.	Sodium Silicate — Rotterdam, 3 cks. J. Ma
Phosphates — Belgium, 315 t. Lawes Chemical Manure Co. " 145 Anglo-Contl. G. Wks.	Tar — N. Russia, 1,510 cks. Linck, Moeller, & Co.	Cottonseed Oil — Bombay, 9 cks. N. Orleans, 2,174 brs.	Starch — New York, 200 bgs. Boston, 110 brs. Antwerp, 100 cs. J. T. Fle
Phosphate of Lime — Belgium, 152 t. Odams Manure Co.	Tartars — Italy, 13 pks. Howards & Sons	Cream of Tartar — Oporto, 3 cks. Baird Brs.	Stearine — Bordeaux, 2 cs. Antwerp, 26 bgs.
Phosphate Rock — Belgium, 190 t. D. de Paas & Co.	Tartaric Acid — Germany, 13 pks. F. C. Devon & Co. U. States, 21 R. Greening Italy, 20 B. & F. Wf. Co. Holland, 8 Kirkpatrick & Co. France, 4 F. C. Devon & Co. Holland, 28 B. & F. Wf. Co. France, 37	Cochineal Gd. Canary, 31 bgs. Roberts & Evans " 5 Burrell & Co.	Sulphur Ore — Huelva, 1,445 t. Machem
Pitch — N. Russia, 300 brs. Linck, Moeller, & Co. " 900 Fellows, Morton, & Co.	Turpentine — U. States, 1,000 brs. 8,032 c. H. Funck & Co.	Cutch Singapore, 850 bxs. Extracts New York, 50 brs. Baltimore, 50 R. Schlosser & Co.	Tallow — New York, 250 tcs. Tar — Boston, 123 brs. A. W.

Acid—	11 cks.	
Am—	4 cks. 6 brls.	
Am—	3	
Am—	20 cs.	
Am—	27 brls.	
Am—	1,890 brls.	
Am—	8 brls.	Pinchin,
Am—	8 cs.	Johnson & Co.
Am—		W. H. Staynes & Smith
Am—	4 cks	
Am—	5 brls.	
Am—	102 bgs.	
Am—	11 cks.	
Am—	2,435 bds.	A. Rice & Co.
Am—	1,315	
Am—	536	Spicer Brs.
Am—	168 brls.	
Am—	12 cks.	
Am—	50 brls.	
Am—	80	

MANCHESTER.

Week ending October 26th.

Am—	2,655 bgs.	
Am—	150 cks.	
Am—	40 bgs.	
Am—	58 brls.	
Am—	32 pkgs.	
Am—	32 cks.	
Am—	12 cks.	
Am—	12 cks.	
Am—	43 cks.	
Am—	1 chst.	
Am—	1 cs.	
Am—	100 brls.	T. M. Duche & Sons
Am—	50	
Am—	180 bgs.	
Am—	40	26 cks.
Am—	5 brls.	D. Moseley & Sons
Am—	2 crts.	
Am—	11 cks.	
Am—	42 cks.	
Am—	64 cks.	
Am—	22 dms.	
Am—	10	10 cks.
Am—	500 bgs.	
Am—	15 cks.	
Am—	80 bxs.	80 cs.
Am—	300 bgs.	186
Am—		T. M. Duche & Sons
Am—	400	
Am—	52 cks.	
Am—	3 cks.	
Am—	alt—	qty.

Wood Pulp—	Sannesund,	4,268 bls.	
Zinc Ashes—	Rotterdam,	8 cks.	
Zinc Oxide—	Rotterdam,	50 brls.	
Zinc White—	Antwerp,	75	
	Rotterdam,	13 cks.	

HULL.

Week ending October 26th.

Acetic Acid—	Rotterdam,	10 blns.	Hutchinson & Son
Acid—	Hamburg,	1 ck.	Wilson, Sons, & Co., Ld.
Alum—	Rotterdam,	78 cks.	W. & C. L. Ringrose
Barytes—	Rotterdam,	22 cks.	Hutchinson & Son
	Antwerp,	106	40 bgs. Bailey & Leatham
	Bremen,	89	120
Camphor—	Hamburg,	65 tubs	Wilson, Sons, & Co., Ld.
Carbonate of Lime—	Hamburg,	10 cks.	Wilson, Sons, & Co., Ld.
Chemicals (otherwise undescribed)	Rotterdam,	1 tin 5 cks.	1 cs. W. & C. L. Ringrose
	Copenhagen,	1	Sons, & Co., Ld.
	Bremen,	9 cs.	Veltmann & Co.
	Hamburg,	9	Wilson, Sons, & Co., Ld.
	Danzig,	11	
	Hamburg,	1 cs.	Bailey & Leatham
	Antwerp,	73 pkgs.	Wilson, Sons, & Co., Ld.
Cod Oil—	Christiansund,	5 brls.	Wilson, Sons, & Co., Ld.
	Bergen,	36	"
Colours—	Rotterdam,	775 pkgs.	2 cs. W. & C. L. Ringrose
	"	12 pkgs.	Wilson, Sons, & Co., Ld.
	Ghent,	15 cks.	"
	Amsterdam,	3	W. & C. L. Ringrose
	Antwerp,	1 cs.	Storry, Witty, & Co.
	Bremen,	1 ck.	Veltmann & Co.
	Hamburg,	2 cs.	Wilson, Sons, & Co., Ld.
	"	26	G. Malcolm & Son
	Danzig,	2	cs.
	Amsterdam,	2	J. Good & Sons
	Dunkirk,	1 cs.	75
	Antwerp,	10	4
Cottonseed Oil—	New York,	100 brls.	Wilson, Sons, & Co., Ld.
Dyestuffs—	Alizarine	51 cks.	85 pkgs. 11 brls. W. & C. L. Ringrose
	Argols	151 bgs.	Wilson, Sons, & Co., Ld.
	Madder	6 cks.	Hutchinson & Son
	Myrabolams	Bombay,	1,004 bgs.
	Shumac	Trieste,	287 bls.
	Palermo,	5,440 bgs.	350
Farina—	Stettin,	225 bgs.	Wilson, Sons, & Co., Ld.
	Ghent,	190 cs.	"
	Harlingen,	210 bgs.	W. & C. L. Ringrose
	Amsterdam,	100	Wilson, Sons, & Co., Ld.
	Harlingen,	50	

Gelatine—	Antwerp,	5 cks.	Wilson, Sons, & Co., Ld.
Glucose—	Rotterdam,	70 bgs.	Hutchinson & Son
	Stettin,	500	Wilson, Sons, & Co., Ld.
	New York,	200	
		300 brls.	
Glue—	Rotterdam,	7 cks.	W. & C. L. Ringrose
	Stettin,	2 bgs.	Wilson, Sons, & Co., Ld.
	Rouen,	8 cks.	Rawson & Robinson
	"	9	69 bls.
Limestone—	Antwerp,	1 crte.	Wilson, Sons, & Co., Ld.
Ochre—	New York,	48 brls.	
Pitch—	Antwerp,	10 cks.	Bailey & Leatham
Pumice Stone—	Trieste,	1 cs.	Wilson, Sons, & Co., Ld.
	Messina,	160 bgs.	55 cs. 260 pkgs. Wilson, Sons, & Co., Ld.
Quicksilver—	Libau,	8 btls.	
Saltpetre—	Hamburg,	5 cks.	Lofthouse & Saltmer
	"	5 kgs.	Wilson, Sons, & Co., Ld.
Soap—	New York,	5 brls.	
Soda—	Rotterdam,	20 cks.	W. & C. L. Ringrose
	"	5	Wilson, Sons, & Co., Ld.
Sodium Acetate—	Rouen,	5 cks.	Rawson & Robinson
Starch—	Rotterdam,	8 cs.	W. & C. L. Ringrose
	Antwerp,	60	Bailey & Leatham
	Bremen,	2,357	Veltmann & Co.
Stearine—	New York,	36 trcs.	Wilson, Sons, & Co., Ld.
	Antwerp,	25 bgs.	"
Sulphur—	Catania,	1,099 pkgs.	Wilson, Sons, & Co., Ld.
	"	1,437	
Tartar—	Messina,	1 ck.	Wilson, Sons, & Co., Ld.
Tartaric Acid—	Rotterdam,	10 cks.	W. & C. L. Ringrose
Treacle—	New York,	800 brls.	Wilson, Sons, & Co., Ld.
Turpentine—	Libau,	52 brls.	
Ultramarine—	Rotterdam,	2 cks.	2 cs. W. & C. L. Ringrose
	Bremen,	20	
Yarnish—	St. Petersburg,	6 cks.	Wilson, Sons, & Co., Ld.
	New York,	5 brls.	"
Waste Salt—	Hamburg,	602 bgs.	Furley & Co.
White Lead—	Rotterdam,	60 cks.	W. & C. L. Ringrose
	Antwerp,	36	Hutchinson & Son
	Amsterdam,	37	Bailey & Leatham
	"	21	J. Good & Sons
Wood Pulp—	Abo,	96 bls.	
Zinc Ashes—	Antwerp,	10 cks.	Bailey & Leatham
Zinc White—	Rotterdam,	20 cks.	W. & C. L. Ringrose

GLASGOW.

Week ending October 31st.

Albumen—	Hamburg,	19 cks.	
Alkali—	Rotterdam,	13 dms.	J. Rankine & Son
Alum—	Rotterdam,	15 cks.	J. Rankine & Son
Aniline—	Rotterdam,	23 cks. 8 cs.	J. Rankine & Son
	Hamburg,	6	
Arachide Oil—	Rotterdam,	6 cks.	J. Rankine & Son
Barium Sulphate—	Antwerp,	400 bgs.	
Barytes—	Rotterdam,	116 cks.	J. Rankine & Son
Boracite—	Pandemo,	306 t.	J. Townsend Ld
Camphor—	Hamburg,	1 ck. 1 cs.	
Castor Oil—	Marseilles,	149 brls. 1 cs.	
	Antwerp,	29 cks.	
Chemicals (otherwise undescribed)	Rotterdam,	2 cks. 4 cs. 1 bx.	J. Rankine & Son
Cod Oil—	Hamburg,	10 cks.	
Colours—	Hamburg,	11 cks.	
	Rotterdam,	3 cks. 75 pkgs.	J. Rankine & Son
	Antwerp,	5 cs.	
Cream of Tartar—	Marseilles,	16 cks.	
Dyestuffs—	Alizarine	102 cks. 5 cs.	J. Rankine & Son
	Cutch	Calcutta,	500 cs.
	Extracts	Rouen,	10 cks.
	Philadelphia,	10	50 brls.
	Antwerp,	10	2 cs.
	Myrabolams	Bombay,	666 bgs.
Farina—	Hamburg,	100 bgs.	
Glucose—	New York,	125 brls.	
	Philadelphia,	50	
Glue—	Rouen,	11 cks.	
	Hamburg,	10 bgs.	
Gypsum—	Rouen,	500 bgs.	
Infusorial Earth—	Hamburg,	68 bgs.	
Iron Oxide—	Montreal,	112 pkgs.	
Lead Acetate—	Hamburg,	4 cks.	
Litharge—	Rotterdam,	8 cks.	J. Rankine & Son
Ochre—	Rouen,	18 cks.	
	Marseilles,	41	
	New York,	140 brls.	
Plumbago—	Antwerp,	41 bgs.	
Potash—	Rouen,	18 cks.	
	Rotterdam,	17	J. Rankine & Son
Saltpetre—	Hamburg,	68 cks.	
Soap—	New York,	32 crts. 300 bxs.	
Sodium Chlorate—	Rouen,	18 cks.	
Starch—	Rotterdam,	34 cs.	J. Rankine & Son
	Hamburg,	100 bgs.	
	Antwerp,	80	
Stearine—	Antwerp,	63 bgs.	

Tallow —		
New York,	70 tcs.	
Tartar —		
Hamburg,	8 cks.	
Tartaric Acid —		
Marseilles,	60 cks.	
Treacle —		
Philadelphia,	500 brls.	Waddell & Bryson
"	1,500	
Ultramarine —		
Rotterdam,	2 cks.	J. Rankine & Son
Varnish —		
Rouen,	7 cks.	
Waste Salt —		
Hamburg,	260 t. 621 cs. 608 bgs.	
White Lead —		
Rotterdam,	47 cks.	J. Rankine & Son
Wood Pulp —		
Christiania,	1,595 bls.	
Zinc Ashes —		
Antwerp,	4 cks.	
Zinc Oxide —		
Antwerp,	25 cks.	
New York,	100 brls.	
Zinc White —		
Rotterdam,	150 rks.	J. Rankine & Son

TYNE.

Week ending October 26th.

Alum Earth —		
Hamburg,	105 cks.	Tyne S. S. Co.
Barium Chloride —		
Hamburg,	100 bgs.	Tyne S. S. Co.

Barytes —		
Antwerp,	400 bgs.	Tyne S. S. Co.
Farina —		
Hamburg,	40 bgs.	Tyne S. S. Co.
Kieselguhr —		
Bergen,	139 bgs.	
Limestone —		
Antwerp,	3 crts.	Tyne S. S. Co.
Ochre —		
Cartagena,	348 t.	Dunford & Elliot
Paint —		
Trondhjem,	1 cs.	
Starch —		
Rotterdam,	81 cs.	Tyne S. S. Co.
Stearine —		
Antwerp,	6 brls.	Tyne S. S. Co.
Tartaric Acid —		
Rotterdam,	4 cks.	Tyne S. S. Co.
Waste Salt —		
Hamburg,	83 t.	
Wood Pulp —		
Gothenburg,	120 bls.	
Christiania,	750	
Laurvig,	100	
Zinc Oxide —		
Antwerp,	30 brls.	Tyne S. S. Co.

GOOLE.

Week ending October 23rd.

Alkali —		
Calais,	41 cks.	
Alum —		
Rotterdam,	25 cks.	
Ammonium Sulphate —		
Hamburg,	1 ck.	
Antimony —		
Boulogne,	1 ck.	

Caoutchouc —		
Boulogne,	6 cks.	
Chemicals (otherwise undescribed)		
Hamburg,	1 ck.	
Colours —		
Hamburg,	3 cks. 2 cs.	
Dyes —		
Ghent,	38 cks. 1 cs.	
Dyestuffs —		
Alizarine		
Rotterdam,	54 brls.	
Extracts		
Rouen,	44 cks.	
Logwood		
Hayti,	592 t.	
Havre,	370	
Madder		
Rotterdam,	6 cks.	
Dyestuffs (otherwise undescribed)		
Rotterdam,	44 cks. 1 cs.	
Boulogne,	48 3 23 pkgs.	
Farina —		
Hamburg,	200 bgs.	
Glucose —		
Calais,	100 bgs.	
Glue —		
Rotterdam,	10 bgs. 5 cs.	
Ochre —		
Calais,	36 cks.	
Plumbago —		
Boulogne,	1 ck.	
Potash —		
Rotterdam,	8 dms.	
Hamburg,	2 cks.	
Antwerp,	3	
Calais,	50	
Rosin —		
Brunswick,	4,663 cks.	

Saltpetre —		
Rotterdam,	105 bgs.	
Hamburg,	25 cks.	
Sodium Silicate —		
Rotterdam,	1 ck.	
Ultramarine —		
Hamburg,	2 cks.	
Varnish —		
Boulogne,	5 cks.	
Waste Salt —		
Hamburg,	310 t.	

GRIMSBY.

Week ending October 26th.

Albumen —		
Hamburg,	5 cks.	
Caoutchouc —		
Hamburg,	3 cs.	
Rotterdam,	1	
Chemicals (otherwise undescribed)		
Hamburg,	21 cks. 15 cs.	
Colours —		
Rotterdam,	2 cks.	
Hamburg,	18 3 cs.	
Antwerp,	23 12	
Dyes —		
Antwerp,	68 pkgs.	5 cs.
Hamburg,	22 54 cks.	
Farina —		
Hamburg,	178 bgs.	
Glucose —		
Hamburg,	18 cks.	
Paint —		
Hamburg,	10 dms.	
Starch —		
Antwerp,	110 cs.	

EXPORTS OF CHEMICAL PRODUCTS**OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.****LONDON.**

Week ending October 30th.

Acids —		
Guernsey,	30 carboys	£44
Alkali —		
Wellington,	7 c.	£16
Aluminous Cake —		
Calcutta,	17 t. 15 c.	£62
Ammonia (Liquid) —		
Rosario,	1 t.	£30
Natal,	18 c.	26
Ammonium Carbonate —		
Dunedin,	10 c.	£19
New York,	13 t.	389
Rouen,	1 14	38 pks. 307
Ammonium Chloride —		
Sydney,	2 t.	£49
Rosario,	1 t.	32
Amsterdam,	4 cks.	39
Hamburg,	1 c.	40
Ammonium Nitrate —		
Bilbao,	34 cks.	£153
Ammonium Sulphate —		
Philadelphia,	42 t.	£420
Hamburg,	50	475
Demerara,	132 6 c.	1,197
Ostend,	20	185
Ghent,	30	275
Anhydrous Ammonia —		
Lyttelton,	11 cyldrs.	£44
Arsenic —		
Adelaide,	200 drs.	£85
Napier,	120	113
Bleaching Powder —		
Algoa Bay,	1 t. 5 c.	£16
Boracic Acid —		
Melbourne,	7 cks.	£68
Borax —		
E. London,	30 kgs.	£43
Canterbury,	10 c.	11
Adelaide,	1 t.	31
Carbonic Acid Gas —		
Napier,	11 cs.	£35
Caustic Potash —		
Napier,	60 drs.	£106
Stockholm,	2 t. 13 c.	30

Caustic Soda —		
E. London,	9 t.	£115
Melbourne,	4 18 c.	99
Napier,	5 8	25
Brisbane,	5 7	40
Sydney,	10 8	75
Dunedin,	1 7	18
Adelaide,	1	48
Algoa Bay,	2 6	60
Natal,	1 12	48
Chemicals (otherwise undescribed)		
Dunkirk,	3 t. 18 c.	£47
Auckland,	3 cs.	13
Rotterdam,	2	27
Madras,	10 cks.	2 53
Citric Acid —		
Kurrachee,	11 c.	£10
Montreal,	1 t. 5	61
Melbourne,	2 10	164
Hamburg,	2	335
Wellington,	6 kgs.	11
Amsterdam,	25	41
St. Petersburg,	4 cks.	169
Barcelona,	4 cks.	131
Calcutta,	10	11
Hiooga,	10	66
Genoa,	10	70
Coal Products —		
Aniline Oil		
New York,	33 drs.	£860
Aniline Salts		
New York,	145 cks.	£730
Venice,	5	30
Benzol		
Hamburg,	96 runs.	£225
Rotterdam,	21 cks.	250
Carbolic Acid		
Barcelona,	10 cks.	£47
Wellington,	51 pks.	21
Coal Tar Dyes		
Dunedin,	4 cks.	£58
Lyttelton,	6	95
Creosote		
Norfolk,	1,000 brls.	£438
Naphtha		
Natal,	20 drs.	£14
Antwerp,	132	24
Pitch		
Port Said,	100 brls.	£33
S. Malo,	447 t.	858
Antwerp,	242	448

Boston,	150	105
Terneuzen,	270	459
New York,	300	156
Alexandria,	500	159
Tar		
Natal,	120 drs.	£15
Wellington,	35 pks.	13
Copper Sulphate —		
Marseilles,	3 t. 10 c.	£1,225
Lyttelton,	1	13
Copperas —		
Auckland,	5 t. 6 c.	£10
Adelaide,	60 brls.	20
Cream of Tartar —		
Sydney,	10 c.	£39
Canterbury,	5	25
Auckland,	1 t.	117
Melbourne,	2	161
Townsville,	5	27
Dunedin,	10	38
Nelson,	10	48
Adelaide,	1 15	179
Disinfectants —		
Melbourne,	59 pkgs.	£99
Brisbane,	3 t. 9 c.	22
Jamaica,	21 pks.	14
Adelaide,	5 cs.	24
Sydney,	25 7 5	177
Calcutta,	20 drs. 1 6	32
Penang,	400	146
Yokohama,	1,001	166
Cape Town,	60 cks.	46
Bombay,	3 drs.	14
Antigua,	48	9 45
Guano —		
Bordeaux,	15 t.	£150
Demerara,	28	280
Manure —		
New York,	2 t.	£32
Berlice,	20	204
E. London,	10 c.	31
Natal,	2 1	25
La Libertad,	2 10	20
Montreal,	6 3	52
Jamaica,	60	485
Rouen,	50	160
Havre,	25	80
Las Palmas,	21	170
Teneriffe,	8	70
Cape Town,	500	3,050
Jersey,	184 6	566

Oxalic Acid —		
Rotterdam,	6 c.	
Phosphoric Acid —		
Berlice,	21 cks.	
Phosphorus —		
E. London,	3 cs.	
Dunedin,	3	
Las Palmas,	7c.	
Potash —		
Wellington,	13 c.	
Potassium Bicarbonate —		
New York,	3 t. 4 c.	
Potassium Chlorate —		
Bombay,	3 cs.	
Potassium Cyanide —		
Algoa Bay,	10 t.	
New York,	40 cs.	
Couagne,	4 cks.	
Potassium Oxalate —		
Treport,	5 c.	
Sal Acetos —		
Treport,	6 c.	
Salt Cake —		
Antwerp,	143 t. 10 c.	
Terneuzen,	120 7	
Saltpetre —		
Sydney,	3 t.	
Gothenburg,	1	
Corunna,	2	
Keppel Bay,	1 1 10	
Townsville,	1	
Napier,	2	
Melbourne,	2	
Adelaide,	1	
Brisbane,	1	
Wellington,	2	
Nelson,	2	
Syra,	4 2	
Sheep Dip —		
E. London,	1 t. 8 c.	
Bluff,	1 t. 8 c.	
Christchurch,	17	
Timaru,	17	
Calcutta,	17	

9, 1895.

Bay,	19	1,000	151
es,	34	4	995
ad Islands, 76 pks.	15	cks.	514
nia,	38	25	264
in, 260 cs. 2 t.	14	110 drs.	999
u,	40	12	137
ergill, 100			275
on,	9	10	275
a,		50	14
tle,		122 pkgs.	68
f,	7	3	75
ui,	12	12	13
a Bay,	6		11
own,	6	11	224
gton,	6	c.	67
rne,	1		18
ish—			
gton,	2	t.	613
geles,	50	4 c.	190
dam,	1	10	40
ystals—			
ad,	2	t.	4 c.
Bicarbonate—			
f,	1	t.	3 c.
ay Island,	12		5
de,	3		20
a,	2		16
Nitrate—			
s,	1	t.	1 c.
Prussiate—			
a,	10	t.	4 c.
Sulphate—			
a,	106	t.	3 c.
Tartrate—			
al,	18	c.	648
ir—			
onia,	67	cks.	80 hds.
on,	2	t.	12
ric Acid—			
own,	20	carboys	615
day Island, 1 t.			18
phosphate—			
t,	10	t.	645
ic Acid—			
y,	1	t.	6117
anui,	3	c.	18
Bay,	4		23
ne,	10		65
lin,	2		10
bury,	3	kgs.	16
ide,	2		242
urne,	5		30
izabeth,	8		51

VERPOOL. week ending October 30th.

—	28	cks.	
—	3	t.	9 c.
—	3		15
—	2	15	14
—	1	10	2 q.
—	1		8
—	3	2	29
—	17	12	2
—	10		50
—	1	4	7
—	3	2	29
—	17	12	2
—	10		50
—	1	4	7
—	3	2	29
—	17	12	2
—	10		50
—	1	4	7

Ammonium Sulphate—			
Barcelona,	51	t.	9 c.
Montreal,	10	15	92
Gd. Canary,	1		9
Colombo,	4		43
Las Palmas,	2	1	128
Valencia,	143	8	2
Genoa,	60	10	1
New York,	74	15	771
Antimony—			
New York,	35	t.	5 c.
Bisulphite of Lime—			
Rangoon,	8	t.	660
Bleaching Powder—			
Ancona,	84	cks.	
Boston,	500		
Baltimore,		226	pkgs.
Genoa,	120		
Ghent,	69		
Leghorn,	30		
Messina,	14		
M. Video,	10	12	bxs.
Naples,	32		
New York,	607		50 brls.
Norrkoping,	274		
Oporto,	15		
Philadelphia,	82	25	
Rio de Janeiro,	20		
Rotterdam,	14		
Rouen,	44		
San Francisco,	55	375	
San Sebastian,	28		
Boracic Acid—			
Rotterdam,	10	c.	617
Brisbane,	11		16
Hiogo,	4	t.	3
Borax—			
Sydney,	1	t.	10 c.
Algoa Bay,	1		21
Antwerp,	20	18	418
Hamburg,	36	11	3
Boca,	5		5
Barcelona,	5		102
Konigsberg,	5		1
Ibrail,	1	6	2
Portland, O.,	2	8	46
San Juan,	5		5
Montreal,	33	5	659
Rotterdam,	24	16	1
Calcium Chloride—			
New York,	10	t.	1 c.
Camphor—			
San Juan,	1	cs.	
Caoutchouc—			
St. John's, Nfld.,	6	cs.	
Carbolic Acid—			
Rotterdam,	11	t.	6527
Amsterdam,	5		40
Constantinople,	7	c.	1 q.
Antwerp,	1	5	73
Baltimore,	6	3	289
Leghorn,	4		14
Rouen,	6	18	1
Odessa,	1	7	3
N. York, 7 cks.	7	7	442
Hiogo,	12	2	27
Caustic Potash—			
Sydney,	10	c.	614
New York,	10		17
Boston,	1	t.	26
Newport News,	6	14	199
Caustic Soda—			
Amsterdam,	36	dms.	
Ancona,	55		
Barcelona,	270	26	cks.
Bari,	153		
Bilbao,	230		
Bombay,	14		
B. Ayres,	125		
Ceara,	30		
Christiania,	10	10	brls.
Alicante,	50		
Aracaju,	25		
Baltimore,	100		
Barranquilla,	38		
Boston,	150		
Brisbane,	6		
Carril,	12		
Dunkirk,	30		
E. London, 15 cs.			
Fiume,	40		
Galatz,	1,100		
Genoa,	271		
Ghent,	8		
Hamburg,	10		
Havana,	160		
Hiogo,	162		
Kurrachee,		5	
Leghorn,	40		
Lisbon,	20		
Malaga,	110	10	
Manila,	50		
Marseilles,	55		

Mauritius,	4		
Melbourne,	30		
Messina,	95		
Montreal,	305		
Naples,	65		
N. Orleans,	85		
N'wport N'ws, 1,671			
N. York, 29 bxs.	630	100	
Odessa,	225		
Oporto,	45		
Paris,	17		
Philadelphia,	325		
Puerto Cabello,	18		
Quebec,	90		
Rio de Janeiro,	20		
Rouen,	17		
St. John's, Nfld.,	30		
Samarang,	100		
San Francisco,	437		
San Sebastian,	10		
Santander,	100	37	
Santos,	70		
Seville,	445	50	
Shanghai, 8 bxs.			
Stettin,	30		
Sydney, 30 bgs.	141		
Talcahuano,	80		
Tampico,	100		
Trinidad,	8		
Valparaiso,	75		
Venice,	50		
Victoria, V.I.,	52		
Chemicals (otherwise undescribed)			
Odessa,	11	t.	5 c.
Montreal,	3		6373
Genoa,	2		102
Bombay,	2	5	68
Boston,	21	1	83
Calcutta,	60		212
Curacao,		3 q.	1
Rotterdam,	10		18
Volo,	8		14
Pirmus,	1		13
Naples,	1		37
Philadelphia,	13	2	431
China Clay—			
Boston,	1,711	t.	
Baltimore,	70		
Barcelona,	20		
Bombay,	109	15	c.
Colombo,	5		
Lisbon,	1	2	
Maranham,	3	6	
Montreal,	5		
New York,	350	cks.	
Philadelphia,	1,250		
Rio de Janeiro,	16		
Coal Products—			
Aniline Oil			
Philadelphia,	10	dms.	
Aniline Salts			
Boston,	29	cs.	
New York,	15	cks.	
Philadelphia,	45		
Pitch			
Montreal,	2	cks.	
Tar			
Bourgas,	40	brls.	
Galatz,	70		
Ibrail,	10		
Sherbro,	15		
Sulina,	15		
Tar Salts			
New York,	9	cks.	
Copperas—			
San Francisco,	32	t.	14 c.
Rio de Janeiro,	4	12	3 q.
Talcahuano,	1	15	1
Melbourne,	10	15	23
Copper Sulphate—			
Montreal,	3	c.	1 q.
Vera Cruz,	7		6
Alexandria,	2	t.	6
Genoa,	10		1
B. Ayres,	19	3	17
Catania,	5	2	1
Ghent,	10	2	3
Rouen,	19	13	2
Sydney,	2	10	44
Victoria, B.C.,	1	10	26
Vancouver,	2	11	2
Paris,	4	18	78
Galatz,	1		16
Cape Town,	1		16
E. London,	14		15
Naples,	17	2	262
Algiers,	18		15
Ibrail,	2	17	2
M. Video,	13	10	3
Cream of Tartar—			
Montreal,	1	t.	1 c.
St. John's, Nfld.,	7		33
Disinfectants—			
Kurrachee,	1	t.	3 c.
Rangoon,	2	dms.	10

Gelatine—			
New York,	100	bxs	2 cs.
Victoria, V.I.,	1	ck.	
Glue—			
Barcelona,	15	cks.	
Montreal,	1	cs.	
New York,	50	bgs.	
Sydney,	5		
Guano—			
Seville,	28	t.	4 c.
Gypsum—			
New York,	73	t.	9 c.
Iron Sulphate—			
B. Ayres,	1	t.	9 c.
Lamp Black—			
Bahia,	8	brls.	
Lime—			
Pernambuco,	20	pns.	
Sierra Leone,	23	brls.	
Magnesia—			
Corunna,	1	cs.	
Bilbao,	50		
Tarragona,	10		
Magnesium—			
Genoa,	2	t.	11 c.
Magnesium Chloride—			
Bombay,	2	t.	11 c.
Colombo,	2		
Magnesium Sulphate—			
Bonny,	8	cs.	
Halifax,	21	brls.	
Kingston, Ja.,	5		
Rio de Janeiro,	140	kgs.	
Manganese Ore—			
Hamburg,	4	cks.	
Manure—			
Lisbon,	17	c.	2 q.
Antwerp,	193	t.	9
Marseilles,	29	11	81
Santos,	100		389
Genoa,	125		509
Metallic Sodium—			
Rotterdam,	2	t.	6394
Ochre—			
Calcutta,	17	cks.	
E. London,	30	brls.	
Montreal,	37		
Oxalic Acid—			
Genoa,	2	t.	670
Barcelona,	6	6 c.	3 q.
Naples,	1	7	41
Paint—			
Accra,	47	pkgs.	10 dms.
Adelaide,	8	cks.	
Belize,	15		
Beyrout,	1	cs.	
Bilbao,		2	bxs.
Corinto,	3		8 sks.
Alexandria,			
Amapala, 16			
Bombay,			120
Calcutta,			45
Cartagena N.G.,			50 kgs.
Cavite,			15
E. London,			28
Genoa,	8	cs.	2
Gd. Canary,			1 brl.
Hamburg,	2	22	
Havana,	1		
Iquique, 160			
La Guayra,	1		
La Union,	2		
Lisbon,			4
Mayaguez,	14		
Monrovia,			5 dms.
New York,			
St. John's, Nfld.,			1 cs.
St. Thomas, W.I.,			
Sandy Point,			5
San Jose de Guat,			43 pails
San Juan,	5	cs	
Shanghai,			4 brls. 30 dms.
Sulina,			5
Tampico,	1		
Trieste,	10		14
Vera Cruz,			160 kgs.
Painters' Colours—			
Bahia,	1	brl.	31 kgs.
Baltimore,			13 cks.
Belize,			49
Bombay,			1
B. Ayres,	50		
Alexandria, 30			200 tins
Antwerp,			10 cks.
Calcutta, 50 cs.			
Genoa,			80 bgs.
Gijon,	1		
Hamburg,			100
Havana,	5	brls.	
Humacao,			11 pkgs.
Iquitos,	20		
Lisbon,	34		

Mannos, 10	30	433	1 cs.
Manila, 4		610	
Mauritius, 3		114	pkgs. 1
Montreal, 134	brls. 3		
N. York, 562	35	114	kgs. 12
60 dms.			
Para, 24	9	90	1 cs.
Philadelphia, 85	40		
Ponce, 5			
Port Natal, 20		43	cs.
Rangoon, 100		100	bgs.
Rio de Janeiro, 3			
Rotterdam, 25		100	
St. John's, N'd., 4	100		
Santander, 25			
Savanna, 1	60		1 cs.
Syria, 75	brls.	71	
Valparaiso, 25			
Vera Cruz, 45			
Victoria, B.C., 45			
Paraffin Wax—			
Paris, 10	cs.		
Piræus, 5	bgs.		
Smyrna, 4			
Venice, 90			
Phosphate—			
Tarragona, 3	t. 11 c.	3 q.	£17
San Juan, 10			55
Phosphorus—			
Yokohama, 1	t.		£250
Hio, 10	c.		125
Picric Acid—			
New York, 1	t. 15 c.	3 q.	£155
Potassium Bichromate—			
B. Ayres, 5	t.		£200
Piræus, 8	c.		25
Potassium Carbonate—			
Boston, 17	t. 16 c.		£318
Potassium Chlorate—			
Antwerp, 6	t. 10 c.		£24
Gothenburg, 1	10		22
Rotterdam, 1	10		55
Shanghai, 1	10		48
Venice, 1	10		38
Stettin, 3			116
Konigsberg, 2	11		107
Odesa, 3			9
Sydney, 3			110
Genoa, 6	5		285
Boston, 56	5		2,242
St. Petersburg, 51	5		2,094
Hio, 51	18		2,077
New York, 2	c.		£80
Potassium Cyanide—			
Curacao, 3	c.		£11
Potassium Permanganate—			
Bombay, 3	c.		£6
Potassium Prussiate—			
B. Ayres, 1	c.		
Quicksilver—			
Callao, 50	brls.		
Rosin Oil—			
Lisbon, 18	brls.		
Salt—			
Abonema, 20	t.		
Accra, 150			
Amsterdam, 599	15 c.		
Antwerp, 430			
Baltimore, 50			
Belize, 180			
Boston, 65			
B. Ayres, 4,227			
Calcutta, 6			
C. C. Castle, 24	11		
Cape Palmas, 36	16		
Christiania, 810			
Copenhagen, 12			
Axim, 42			
Bakana, 10			
Brass, 15			
Cape Lahou, 6	5		
Conakry, 50			
De Gama, 8	10		
E. London, 225			
Ghent, 19	16		
Gd. Bassa, 95			
Gd. Bassam, 17	10		
Gd. Lahou, 22	6		
Half Jack, 200			
Halifax, 17	17		
Manaos, 50			
Melbourne, 466	10		
Montreal, 160	8		
N. Orleans, 85			
New York, 118			
Old Calabar, 249			
Opobo, 2,733			
Para, 10			
Rangoon, 3	6		
Rio de Janeiro, 12½			25 pkgs.
Rosario, 3			
Salt Pond, 1			
San Juan, 3			

Santos, 10	2		
Sapeli, 21			
Sierra Leone, 240	7		
Tabou, 5	7		
Trinidad, 45	6		
Vancouver, 30			
Winnebago, 7	10		
Salt Cake—			
Baltimore, 225	t. 13 c.		£291
Philadelphia, 140	8		198
Saltpetre—			
Rio de Janeiro, 37	c. 3 q.		£21
Sheep Dip—			
M. Video, 2	t. 3 c. 3 q.		£50
Punta Arenas, 1,600	glns.		241
B. Ayres, 73	4 c.		1,935
Bombay, 300	dms.		68
M. Video, 3	2	3	183
Slag—			
Bordeaux, 75	t.		
Soap—			
Accra, 250	bxs.		
Alexandria, 10	31 cs. 16		brls.
Algoa Bay, 5,595			
Amboina, 1,000			
Antwerp, 15			
Assinee, 24			
Axim, 50			
Baltimore, 500			
Batavia, 20			
Bathurst, 550			
Belize, 2			
Bilbao, 600	9		40 cks.
Bombay, 1,170			
Bonny, 100			
Brass, 30			
C. C. Castle, 342	55		
Cape Town, 4			
Cartagena, N.G., 3			70 kgs.
Colon, 2			
Constantinople, 5			
Corfu, 64			
Akassa, 500			
Barbadoes, 50			
Batanga, 100			
Boma, 100			
Christiania, 100			
Curacao, 10			
Delagoa Bay, 70			
Demerara, 400			
Dominica, 25			
Durban, 5			
E. London, 1,711			
Genoa, 9			
Gibraltar, 65			
Halifax, 300			
Hamburg, 10			
Iquique, 5			
Kingston Jam., 40			
Jersey, 2			
Kurrachee, 236			
Lagos, 50			
Las Palmas, 130			
Malta, 8			
Manaos, 1,000			
Marseilles, 81			
Menado, 4,000	1,626		
Monrovia, 482			
Montreal, 1,000			
Mossel Bay, 51			
New York, 200			
Old Calabar, 400			
Opobo, 100			
Para, 3			
Patras, 1,500			
Pernambuco, 65			
Philadelphia, 1,500			27 bdis.
Piræus, 20			
Pt. Elizabeth, 1,124	25		
Pt. Natal, 50			
Pram Pram, 10			7 pkgs.
Rangoon, 403			
Rotterdam, 280			
S. John's, N'd., 25			
St. Lucia, 25			
Salt Pond, 8			
Savanna, 120			
Sierra Leone, 5,000	12		
Shanghai, 210	25		
Singapore, 2,000			
Sourabaya, 1,480			
Sydney, 59			
Tabou, 6			
Tampico, 120			
Teneriffe, 50			
Ukaka, 100	41		
Valparaiso, 500			
Victoria, V.I., 500			
Soda—			
Boston, 15	cks.		
Copenhagen, 100	bgs.		
Soda Alkali—			
Boston, 40	brls.		
Genoa, 35			

Leghorn, 80			
Malta, 40			
Montreal, 100			
Sydney, N.S.W., 17			
Soda Ash—			
Antwerp, 350	bgs.		
Baltimore, 5,079	133		cks.
Barcelona, 20			
Bombay, 8			
Boston, 1,440	176		157 tcs.
B. Ayres, 153			brls.
Calcutta, 240	kgs.		
Callao, 30			
Ceara, 50			
Christiania, 22			
Corfu, 90			
Ghent, 24			
Gothenburg, 19			
Halifax, 30			
Hamburg, 188			
Hio, 80			
Lagos, 50	kgs.		
Montreal, 100			
Naples, 150			
N. Orleans, 29			
New York, 5,720	35		95 tcs.
Odense, 12			
Philadelphia, 334	167		
Piræus, 20			brls.
Portland, O., 18			
Puerto Cabello, 4			
Rio de Janeiro, 5			
Rotterdam, 500			
Rouen, 100			
San Francisco, 273			
Sydney, N.S.W., 30			
Vancouver, 8			
Yokohama, 200			
Zante, 24			
Soda Crystals—			
Alicante, 6	cks.		
Boston, 196	brls.		
B. Ayres, 168			
Corfu, 30			
Halifax, 10			45 kgs.
Malaga, 20			
Malta, 40			
Montreal, 5	cs.		975
Nagasaki, 10			
Penang, 10			
Philadelphia, 280			
Portland, Or., 100			
Quebec, 10			
Toronto, 100			
Valparaiso, 200			
Sodium Arsenate—			
New York, 6	cks.		
Sodium Bicarbonate—			
Aalborg, 5	cks.		
Algoa Bay, 20	kgs.		50 bgs.
Antwerp, 90	10		
Baltimore, 500			
Barcelona, 120			
Bombay, 250			
Calcutta, 2,260			
Cape Town, 20			
Christiania, 20			
Corunna, 10	brls.		
Boston, 200			
Brisbane, 20			
Copenhagen, 120			
Danzig, 13			
Dunkirk, 7			
E. London, 40			80
Halifax, 600			
Hamburg, 5	3		2 brls.
Hio, 1,500			
Hong Kong, 10			
Ibrail, 20	10		
Nagasaki, 180			
Nantes, 34			
N. Orleans, 650			
New York, 60			
Paris, 30	pkgs.		
Philadelphia, 20			
Quebec, 100	5		10
Rangoon, 100			
Rotterdam, 20			
St. John's, N'd., 20			
Samarang, 5			
Sydney, NSW., 590	10		20 bgs.
Tampico, 197			
Valencia, 133			
Vera Cruz, 50			
Victoria, B.C., 100			
Victoria, V.I., 100			
Yokohama, 500			
Sodium Bichromate—			
Syria, 3	brls.		
Sodium Carbonate—			
New York, 112	brls.		
Sodium Chlorate—			
Montreal, 100	kgs.		
Rotterdam, 4			
St. Petersburg, 100			

Sodium Hyposulphite—			
Alexandria, 8	brls.		
Sodium Nitrate—			
Montreal, 20	kgs.		
Sodium Silicate—			
Acajutla, 34	cks.		
Almeria, 26			
Barcelona, 50			
Bilbao, 29			
Lisbon, 16			
Malta, 12	brls.		
New York, 5			
Rio de Janeiro, 3			
Sydney, N.S.W., 2			
Volo, 10			
Sodium Sulphate—			
Havana, 6	cks.		
Lisbon, 20	kgs.		
Sodium Sulphite—			
Hamburg, 9	brls.		
Spent Oxide—			
Antwerp, 280	t.		
Starch—			
Constantinople, 1	cs.		
St. John's, N'd., 42			
Sulphur—			
New York, 20	brls.		
Halifax, 100	t.		
Montreal, 195	3 c.		
Boston, 300	9		
Superphosphates—			
Seville, 7	t. 7 c.		
Valencia, 20			
Sourabaya, 15	1		20
Rio de Janeiro, 20	1		2
Santos, 100	1		2
Tin Crystals—			
Bombay, 1	t. 3 c.		10
Treacle—			
Christiania, 23	hfl.-pms.		15
Ghent, 20			
Gothenburg, 20			
Hamburg, 20			
Rotterdam, 20			
Terneuzen, 35			
Turpentine—			
Belize, 25	dms.		
Colombo, 1			

HULL.

ending October 26th.

Sulphate—	
50 bgs.	
88	
201	
25 cks.	
46	
ng Powder—	
33 cks.	
13	
48	
Soda—	
35 dms.	
648	
38	
als (otherwise undescribed)	
6 cs.	
10 brls.	
16 cks.	
1,775 pkgs.	
36	
30	
2	
98	
213	
23	
12	
6	
133 kgs.	
7	
2	
260 pkgs.	
50	
12	
10 kgs.	
6	
43	
14	
20	
eed Oil—	
490 c.	
31	
270	
35	
82	
220	
101	
402	
50	
200	
100	

(otherwise undescribed)

1 kg.	
12 cks.	
1	
15 dms.	
29	
59 bgs.	
Oil—	
2 c.	
25	
45	
28	
49	
382	
249	
32	
36 t.	
803	
la—	
10 cks.	
ra' Colours—	
26 cks. 6 dms. 8 pkgs.	
28	
4	
3	
31	
5 cs.	
124 pkgs.	
5	
7	
4	
20	
6	
1	
5 dms.	
3	
7 pkgs.	
37	
22	
2	
50	
63	
17	
35	
3	
lorus—	
50 cs.	
25	
182 t.	
200	
13 cs.	
10	
3	
10 bls.	
1	
2	

Soda Ash—

Naples,	23 cks.
Starch—	
Copenhagen,	120 cs.
Stearine—	
Drontheim,	1 ck.
Tallow—	
Gothenburg,	25 cks.
Stockholm,	5
Tar—	
Antwerp,	7 cks.
Amsterdam,	2
Danzig,	2
Rotterdam,	6
Stettin,	1 cs.
Varnish—	
Antwerp,	3 cks. 4 dms.
Genoa,	4 9 cs.
Gothenburg,	1 3
Harlingen,	1
Hamburg,	1
Stettin,	21 1 hmp.
Stockholm,	2
Whiting—	
Amsterdam,	39 cks.

GLASGOW.

Week ending October 31st.

Acetic Acid—	
U.S.A.,	£25
Acids—	
U.S.A.,	£40
Alumina—	
Rouen,	£21
Ammonium Sulphate—	
Charente,	50 t. 15½ c.
Mauritius,	509 7
Nantes,	62 4½
U.S.A.,	25
Amsterdam,	21
Rouen,	6 2½
Hamburg,	50 14
Palermo,	3 ¾
Caustic Soda—	
Mauritius,	2 t. 19½ c.
Seville,	30 8½
Chloride of Lime—	
U.S.A.,	£40
Coal Products—	
Aniline Dyes	
Calcutta,	£22
Aniline Salts	
Lisbon,	7 c.
Benzine	
France,	£45
Benzol	
Hamburg,	4 t. 1 c.
Creosote Oil	
France,	£600
Pitch	
Havre,	£780
U.S.A.,	715
Amsterdam,	250 t.
Antwerp,	267
France,	290
Karachi,	35
Canada,	210
Tar	
Delagoa Bay,	£54
Bombay,	80
Karachi,	66
Hamburg,	11 t. 5 c.
Boston,	50
U.S.A.,	168

Coal Tar Products (otherwise undescribed)

Rotterdam,	5 t.
Dyestuffs—	
Extracts	
Canada,	£324
Lisbon,	61
U.S.A.,	171
Fustic Extract	
Genoa,	£84
Logwood	
U.S.A.,	£35
Gelatine—	
Algoa Bay,	£39
Canada,	145
Glucose—	
U.S.A.,	1 t. 19 c.
Lead Nitrate—	
Canada,	£55
Genoa,	35
Linseed Oil—	
Delagoa Bay,	8 t. 5½ c.
Mauritius,	4 17
E. London,	16¾
Canada,	10 7¾
Valparaiso,	1

Litharge—

Canada,	£310
Manganese—	
Basle,	£105
Paris,	50
Manganese Oxide—	
U.S.A.,	£180
Paint—	
Natal,	£32
U.S.A.,	41
Bombay,	25
Rio de Janeiro,	77
Valparaiso,	77
Painters' Colours—	
Huelva,	£32
Mauritius,	39
Antwerp,	52
Calcutta,	134
Paraffin Wax—	
Bordeaux,	£46
Cape Town,	29
Trieste,	270
Paris,	75
Rouen,	48
Genoa,	205
Leghorn,	128

Potash Salts—

Algoa Bay,	3 t. 6 c.
Delagoa Bay,	9 17½
Durban,	4 4¾
Potassium Bichromate—	
Bordeaux,	5 t. 3 c.
Brussels,	8 15½
U.S.A.,	15 2¾
Rotterdam,	£62
Antwerp,	1 5½
Lyons,	3 12½
Paris,	8 11¾
Rouen,	17 13¾
Calcutta,	24

Rosin Oil—

Genoa,	£25
Salammoniac—	
Genoa,	£85

Soap—

Black River, Ja.,	1 t. 5 c.
Grenada, W.I.,	15
Bombay,	2 10½
E. London,	2 10

Sodium Bichromate—

Brussels,	1 t. 11¾ c.
U.S.A.,	18 4
Lyons,	3 4½
Rouen,	14 1¾

Starch—

Lisbon,	£66
Tallow—	
Lisbon,	17 t. 12 c.

Treacle—

Pt. Elizabeth,	2 t. 10 c.
Pretoria,	1 5
Christiania,	40 19

White Lead—

Durban,	£50
Calcutta,	65

TYNE.

Week ending October 26th.

Alkali—	
Amsterdam,	90 t. 19 c.
Antwerp,	2 6
Gothenburg,	25 15
St. Petersburg,	48 14
Pernau,	60 7
Rotterdam,	4 12
Copenhagen,	5 14
Leghorn,	7 18
Ammonium Chloride—	
Gothenburg,	15 c.
Antimony—	
Rotterdam,	2 t. 10 c.
St. Petersburg,	10
Asbestos—	
Bergen,	1 c.
Barytes—	
Hamburg,	27 t.
Riga,	15
Bleaching Powder—	
Hamburg,	20 t. 2 c.
Antwerp,	29 9
Bilbao,	10 3
Amsterdam,	52 9
Riga,	30 9
San Francisco,	30 3
Rotterdam,	57 8
Copenhagen,	11
Bergen,	1 8
St. Petersburg,	661 11
Gothenburg,	41 7

Caustic Soda—

Hamburg,	7 t. 16 c.
Antwerp,	15 5
Bilbao,	15 1
Amsterdam,	13 3
Christiania,	7 5
St. Petersburg,	150 12
San Francisco,	43 10
Pernau,	30
Rotterdam,	2 16
Copenhagen,	10 8
Gothenburg,	31

Magnesia—

Hamburg,	13 c.
Antwerp,	5
St. Petersburg,	5 t. 5
Genoa,	4 8
Leghorn,	7

Manure—

Valencia,	387 15 c.
Paint—	
Hamburg,	3 t.

Soda—

Antwerp,	9 t. 18 c.
Gothenburg,	15 1
Christiania,	16 15
St. Petersburg,	10 19
Randers,	29 2
Rotterdam,	10 12
Copenhagen,	6 9
Oporto,	1
Valencia,	15 7
Leghorn,	49 10
Helgenas,	450 3

Soda Ash—

Hamburg,	8 t. 10 c.
Antwerp,	6 11
Helgenas,	21 4
Bergen,	5 3
Gothenburg,	261 18

Sodium Sulphate—

Helsingborg,	330 t.
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Sulphur—

Gothenburg,	60 t.
White Lead—	
Christiania,	5 c.
Copenhagen,	1 t. 10
Oporto,	12 17

GOOLE.

Week ending October 23rd.

Chemicals (otherwise undescribed)	
Boulogne,	5 cks.
Coal Products (otherwise undes.)—	
Boulogne,	7 cks. 2 cs.
Colours—	
Antwerp,	1 ck.
Ghent,	2 2 cs.
Hamburg,	1
Creosote—	
Bordeaux,	250 t.
Dyestuffs (otherwise undescribed)	
Ghent,	2 cks.
Hamburg,	1
Rotterdam,	5
Manure—	
Bruges,	193 bgs.
Ghent,	693
Pitch—	
Dunkirk,	100 t.
Antwerp,	241

GRIMSBY.

Week ending October 26th.

Alkali—	
Hamburg,	23 cks.
Malmö,	1
Port au Prince,	35 dms.
Chemicals (otherwise undescribed)	
Antwerp,	8 cks.
Coal Products (otherwise undes.)—	
Dieppe,	140 cks.
Hamburg,	8 pkgs.
Rotterdam,	3
Colours—	
Antwerp,	1 cs.
Dieppe,	1 ck.
Port au Prince,	2
Dyestuffs (otherwise undescribed)	
Dieppe,	1 ck. 1 cs.
Manure—	
Rotterdam,	50
Soap—	
Antwerp,	1 pkge.

PRICES CURRENT.

WEDNESDAY, NOV. 6TH, 1905.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	& 9/-
Glacial	per lb.	0	10/-
Arsenic S.G., 2000°	per lb.	0	15 0
Fluoric	per lb.	0	0 3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
(Cylinder), 30° Tw.	per lb.	0	3 0
Nitric 80° Tw.	per lb.	0	0 1 1/2
Nitrous	per lb.	0	0 1 1/4
Oxalic	nett	0	0 3 1/4
Phosphoric, 1750°	per lb.	0	1 1
Picric	per lb.	0	0 10
Sulphuric (fuming 50 %	per ton	15	10 0
(monohydrate)	per lb.	5	10 0
(Pyrites, 168°)	per lb.	3	0 0
(free from arsenic, 145°)	per lb.	1	5 0
Sulphurous (solution) S.G. 1025	per lb.	3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric	per lb.	0	0 11 1/2
Arsenic, white powdered	nett per ton	15	15 0
Alum (loose lump)	per lb.	4	12 6
Alumina Sulphate (pure)	per lb.	4	12 6
Aluminoferrous	per lb.	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	per lb.	0	1 3
" 880 = 28° B.	per lb.	0	0 3
" = 24° B.	nett	0	0 2 1/4
Carbonate	per lb.	0	0 3 1/4
Muriate	per ton	23	0 0
(sal-ammoniac) 1st & 2nd	per cwt.	39/-	& 37/-
Nitrate	per ton	38	10 0
Phosphate	per lb.	0	0 6 1/4
Sulphate (grey) London	per ton	8	15 0
(grey) Hull	per lb.	8	15 0
Aniline Oil (pure)	per lb.	0	0 5 1/4
Aniline Salt	per lb.	0	0 4 1/4
Antimony	per ton	31	0 0
(tartar emetic)	per lb.	0	0 7
(golden sulphide)	per lb.	0	0 10
Barium Chloride	per ton	6	7 6
Carbonate (native)	per lb.	3	5 0
Sulphate (native levigated)	per lb.	42/6	to 65/-
Bleaching Powder, 35 %	nett	7	0 0
Liquor, 7 %	per lb.	3	10 0
Bisulphide of Carbon	per lb.	13	5 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	per ton	15/-	to 30/-
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 %	nett per lb.	0	0 7 1/4
Magenta	per lb.	0	3 9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0 11 1/2
Benzol, 90 % nominal	per gallon	0	1 3 1/2
50/90	per lb.	0	1 2 1/2
Carbolic Acid (crystallised 40°)	per lb.	0	0 5 1/4
(crude 60°)	per gallon	0	1 6 1/2
Creosote (ordinary)	per lb.	0	0 1 1/2
(filtered for Lucigen light)	per lb.	0	0 2
Crude Naphtha 30 % @ 120° C.	per lb.	0	0 5 1/4
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	per lb.	1	15 0
Solvent Naphtha, 90 % at 160°	per gallon	0	1 2 1/4
" Lucigen " and " Wells " Oils	per lb.	0	0 2 1/2
Copper	per ton	44	12 6
Sulphate	per lb.	16	10 0
Oxide (copper scales)	per lb.	41	10 0
Glycerine (crude)	per lb.	18	10 0
(distilled S.G. 1250°)	per lb.	47	10 0
Iodine	nett, per oz.	0	9
Iron Sulphate (copperas)	per ton	1	5 0
Sulphide (antimony slag)	per lb.	2	0 0
Lead (sheet) for cash	per lb.	12	12 6
Litharge Flake (ex ship)	per lb.	13	15 0
Acetate (white)	per lb.	22	0 0
brown	per lb.	15	0 0
Carbonate (white lead) pure	per lb.	16	0 0
Nitrate	per lb.	19	0 0

Lime, Acetate (brown)	per ton	5	7
(grey)	per ton	7	17
Magnesium (ribbon and wire)	per oz.	0	2
Chloride (ex ship)	per ton	2	7
Carbonate	per cwt.	1	17
Hydrate	per ton	17	0
Sulphate (Epsom Salts)	per ton	3	0
Manganese, Sulphate	per cwt.	2	15
Borate	per cwt.	2	15
Ore, 70 %	per ton	3	1
Methylated Spirit, 61° O.P.	per gallon	0	1
Naphtha (Wood), Solvent	per lb.	0	1
Miscible, 60° O.P.	per lb.	0	1
Oils:—			
Cotton-seed	per ton	18	0
Linseed	per ton	22	0
Petroleum, American	per gallon	0	0
Stearine	per ton	24	0
Phosphorus (yellow)	per lb.	0	0
(red)	per lb.	0	0
Potassium (metal)	per oz.	0	0
Bichromate	nett	0	0
Carbonate, 90% (ex ship)	per ton	17	0
Chlorate	per lb.	0	0
Cyanide, 98%	per lb.	0	0
Hydrate (Caustic Potash) 90 %	per ton	24	15
(Caustic Potash) 75/80 %	per ton	21	0
(Caustic Potash) 70/75 %	per ton	20	0
Nitrate (refined)	per cwt.	1	1
Pernmanganate	per cwt.	2	17
Prussiate Yellow	per lb.	0	0
Sulphate, 90 % (ex ship)	per ton	9	15
Muriate, 80 % (do.)	per ton	8	10
Silver (metal)	per oz.	0	2
Nitrate	per lb.	0	2
Sodium (metal)	per lb.	0	2
Carb. (refined Soda-ash) 48 %	nett per ton	4	15
(Caustic Soda-ash) 48 %	per lb.	3	17
(Carb. Soda-ash) 48 %	per cwt.	3	15
(Alkali) 58 %	per lb.	3	15
(Soda Crystals)	per lb.	2	2
Acetate (ex-ship)	per lb.	14	0
Arseniate, 45 %	per lb.	11	0
Chlorate	per lb.	0	0
Borate (Borax)	net, per ton	19	0
Bichromate	per lb.	0	0
Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	per ton	9	7
(74 % Caustic Soda)	per ton	8	7
(70 % Caustic Soda)	per ton	7	10
(60 % Caustic Soda)	per ton	6	10
(60 % Caustic Soda, cream) (f.o.b.)	per ton	6	7
Bicarbonate	per lb.	6	10
Hyposulphite	per lb.	5	10
Manganate, 30%	per lb.	16	0
Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7
Nitrite, 98 %	per ton	31	0
Phosphate	per lb.	13	5
Silicate (glass)	per ton	4	10
(liquid, 100° Tw.)	per lb.	3	10
Stannate, 40 %	per cwt.	3	2
Sulphate (Salt-cake)	per ton	1	5
(Glauber's Salts)	per lb.	1	5
Sulphide	per lb.	8	0
Sulphite	per lb.	5	5
Strontium Hydrate, 100%	per lb.	0	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0
Barium, 95 %	per lb.	0	0
Potassium	per lb.	0	0
Sulphur (Flowers)	per ton	6	0
(Roll Brimstone)	per lb.	5	0
Brimstone: Best Quality	per lb.	3	12
Superphosphate of Lime (26%)	per lb.	2	7
Tallow	per lb.	22	10
Tin Crystals	per lb.	0	0
English Ingots	per ton	69	0
Zinc (Spelter)	per lb.	15	5
Chloride (solution, 100° Tw.)	per lb.	5	7

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Notices.

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Contributors are invited to forward items of intelligence, or cuttings from newspapers, of interest to the trades concerned.

Communications for the Editor, if intended for insertion in the next issue, should reach the office not later than **Tuesday** evening.

Reports, and correspondence on all matters of interest to the chemical and allied industries, home and foreign, are solicited. Contributors should condense their matter as much as possible, to one side only of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be on separate sheets.

Advertisements.

Advertisements of Situations Vacant, Premises on Sale or To be Let, and Wants, and Specific Articles for Sale by Private Contract are accepted in the *Chemical Trade Journal* at the following rates:—

10 Words and under..... 2s. 6d. per insertion
Each additional 10 words 6s. 6d. "

Advertisements, Announcements in the Directory Columns, and all Advertisements prepaid, are charged at the Tariff rates which will be forwarded on application.

Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

CURRENT TOPICS.

TECHNICAL SCHOOLS AND EDUCATION.

AS the waning of the year approaches, it is only in accordance with custom for technical education to be brought once more prominently before those for whom our technical schools cater. During the past week the reports of several of the more important institutions have been published, and in many things they show how far and in what directions this form of education is developing. At the same time, these reports show up some of the more neglected sections, which, for various reasons, are liable to be overlooked.

The main object of technical schools is secondary education, in the sense of giving special training in the industries which the students contemplate following. It must not be forgotten that this education should be distinctly secondary, and not, as some appear to think, a thing to be entered upon without a good grounding in the elementary stages of education. It is very pleasing to note that in his recent address to the students of the Manchester Technical and Art Schools, Mr. Sidney Webb emphasised this fact, contending that the success of our foreign competitors was not solely due to their superior education in regard to specific subjects, but rather to the combination of that special knowledge with a good general education. English students cannot be too forcibly reminded that it is futile to endeavour to raise the upper storeys of their own intellectual edifices upon faulty foundations, as it almost invariably happens that sooner or later the weak places settle and throw the whole structure out of truth, if not rendering it useless. Having gone so far, however, it is too late to pull down and begin again, and so these failures have to be left to the tender mercies of premature decay.

In connection with science in particular, at first sight the returns are not so good as in the past, but there is a satisfactory explanation for this apparent falling off, in the fact that the standard in many subjects has been raised considerably. That these advances have made such comparatively small depredations upon the grants earned speaks well for the quality of the teaching, and also shows that there is perhaps an improvement in the quality of the material under tuition. If we have dwelt rather upon the importance of the general education as a stepping stone to the technical, still we should be sorry to create any misunderstanding. While insisting upon a good foundation, we would always advocate the steady development of the provisions for technical education in its strictest sense. There are yet several industries that have been but meagrely fostered. On this account we are only too pleased to record the opening of a tanning school in connection with the Borough Polytechnic. Tanning is fast developing into a science, as the work done at the Leeds College and elsewhere testifies, and it is satisfactory to learn

of the establishment of branch technical schools devoting special attention to the preparation of students and operatives who will have to cope with the changes that are fast taking place in this industry.

COMMERCIAL LITIGATION.

The recent utterances of the Lord Chief Justice upon the state of commercial business in the law courts, and the new Commercial Court in particular, will prove very reassuring to those whose business leads them into litigation. His lordship says that he has good cause to believe that there is no longer any reason for further complaints about the delays of the law. This is news indeed, and acceptable withal. To all accounts the chief fault now lies with the parties to the action for their delay in entering an action for trial after its institution. There is doubtless good sense in all that his lordship says, both on this point and many others that he refers to, but there is one statement which we think should be supplemented with an admission. His lordship was specially emphatic in stating that "the Queen's Courts are not in competition with any private forum that parties may select for the settlement of their differences." That is so now, but in a sense the Commercial Court arose out of a spirit of competition. It was not till the establishment of these "private forums" gave prominence to the decline in the commercial business of the courts that the processes of commercial litigation were modified to benefit business litigants. While, therefore, changes have been made which materially lessen the delays that had developed into by-words, the thanks are due to these "forums" more than to anything else for all the benefits his lordship was able to enumerate.

THE ARCHBUTT-DEELEY WATER PURIFICATION PROCESS.

ON Wednesday a demonstration of this process, as applied to the treatment of trade effluents and water softening, was given by Messrs Mather and Platt, Ltd., who are manufacturing the plant at their Salford Ironworks. The company invited to witness the demonstration assembled at the Salford Ironworks, proceeding thence to the dyeworks of Mr. Joseph Jackson, Smedley Bridge, where the apparatus is in operation, purifying about 20,000 gallons of liquid refuse per hour.

The process in outline is as follows:—The precipitating tank is fitted with two sets of superposed perforated pipes laid along the bottom. The top set is perforated on the upper side, the bottom set on the underside. A steam injector draws a current of water from the tank, while the desired chemical precipitant is also drawn from the chemical tank, the mixture being forced by the injector back through the upper layer of pipes, thus ensuring a perfect mixing of the small volume of chemical precipitant through the whole of the 20,000 gallons being treated. Air is then injected through the bottom layer of pipes, which passing downwards stirs up the precipitate or mud from previous operations which lies on the bottom of the tank. Before being mixed with this mud the new precipitate, which is very finely divided, will not coagulate, and takes a long time to settle; but when the old precipitate, consisting of coarse particles, is stirred up, the fine particles attach themselves to the coarse particles, and the subsidence of the precipitate is thereby greatly accelerated when the water is allowed to rest. After the blower has been in operation for fifteen minutes the steam is turned off, and it is claimed that in about thirty minutes, or from that to an hour, very nearly all the precipitate will have settled to the bottom of the tank, and the water, even down to a depth of 6ft. from the surface, will not contain on an average more than about one grain per gallon of suspended matter.

The particular test witnessed was a severe one, owing to the particular nature of the waste, which was an "ugly" mixture of waste from the kiers and dye vats, but in the course of an hour an effluent was produced containing very little suspended matter, and of sufficient purity to pass the official standard. A repetition of the treatment for the benefit of those who desired to critically test the process produced in about another twenty minutes an excellent effluent that was more than sufficiently clear to satisfy the most exacting river inspector. The demonstration was, therefore, nothing in the way of an experiment, but a real demonstration of the usual working conditions.

There are about 14 of these plants at work treating, in the some 330,000 gallons per hour, and Mr. Colin Mather, *as cicerone*, stated that they had yet to receive the first in regard to their working. Among the other gentlemen who in explaining the rationale of the process were Mr. Archbutt the inventor, Mr. Brown and Mr. Clarke, (of Messrs. M. Platt's) and Mr. Lomax, who has acted as superintending during the erection of several of the plants that are now working successfully. Later in the day the company travelled to Adlington, and saw the plant in operation at the bleachworks of Messrs. Davies and Eckersley, where the process is in regular use. Hard water at the rate of 8,000 gallons per hour. The purification of a cast-iron tank, divided into two equal parts by a partition. The two tanks thus formed are fitted up in exact way, the processes of filling, softening, and clarifying being in one, whilst softened and clarified water is being drawn off the other. Hard water is admitted to either tank by means of a pipe, which is connected to a pump or main. The water is brought up to the level of a gauge mark on the side of the tank. As the tank is filling, quick-lime and sodium carbonate (58 per cent alkali), in proportions which depend upon the character of the water, are weighed out, and boiled up with water in a small chemical means of live steam. The lime is first slaked in the hot water, then the alkali is added and stirred until dissolved.

The injection of the chemicals and the blowing process take place in just the same manner as described above. The chemicals have been added to the cold water, and it is found that the water has been softened and afterwards becomes raised in temperature in the hot pipes, injectors, &c., connected with the boilers, a fine precipitation occurs, which gradually forms a coating on the inside of the pipes. To prevent this the water is carbonated. The quantity of water under treatment at present is at the locomotive works of the Midland Railway Company at Derby, where a plant treating 30,000 gallons per hour has been in successful operation. During the trial at Messrs. Davies and Eckersley's works, it was shown by Clarke's test to have been reduced from 15° to 10° while in the summer the same figure is regularly attained. The water showing 20° to 22° of hardness. Mr. Davies both privately expressed his perfect satisfaction with the work of the plant and the benefits which have accrued, as shown by the condition of the boilers.

To the chemical and allied trades the process is of great interest, and the demonstrations were carefully witnessed by a representative on Wednesday with a view to judging of the chemical and mechanical features of the process. The result thus arrived at is so satisfactory that we purpose dealing with the matter fully in a technical article to appear in our Special Issue, which we are now preparing. There space will enable us to point out several features to which we are unable to refer prominently. At the same time we can safely say that the process has many features which present distinct advantages, as well as being, speaking, undoubtedly simple and efficient.

REGENERATING SULPHURIC ACID.—Herr Otto Jaehneke, of Chemnitz, has been using sulphuric acid which has been used for purifying oil, &c., by distilling it against red-hot iron. The organic impurities are burned off, and sulphuric and sulphurous acids are collected in a condenser.

TWO MEN SUFFOCATED IN A WELL.—At Bumpstead, Havershill, Essex, on Tuesday, Lewis Littleton, a sanitary fitter, descended a well 164 feet deep to inspect it. He was overcome by foul air and fell into the water, and a labourer named B. went to his assistance, was also overpowered. Both were suffocated.

MANCHESTER CHAMBER OF COMMERCE AND FACTORY OWNERS.—Mr. W. Fogg recently moved the following resolution:—"The Chamber desires to record its approval of factory legislation fitted to protect women and young persons against excessive labour, and to preserve the health of all persons engaged in factory work, as well as to safeguard them from preventable accident. It is of the fact that other countries have, in the exercise of their right, supplied themselves extensively with our newest and most approved means of successful competition, the factory system, and the growing tendency on the part of English workpeople to further restrictive legislation without regard to its effect on the cost of production, in discouraging the investment of capital in limiting their employment and future freedom of action in competition with rival workers abroad. These are under few and severe restraints, and possess the most favourable conditions as to living and the working hours of their mills. The Chamber, therefore, until that factory legislation, and its enforcement abroad, have approached much more nearly to our own, no further restrictive measures should be attempted in this country with reference to factory industry."

Reports of Companies.

PRIMITIVA NITRATE COMPANY.

ordinary meeting referred to last week was held at Liver-
 11mer 9th, Colonel North (the chairman) presiding.
 man said he regretted very much the position the company
 he could assure them it was no fault of the directors.
 had been trying to bring about, and what every good
 r had been trying to bring about, was combination, and if
 n carried out they would have got along all right. They
 ne in their misfortune, as he thought they would find that
 r cent. of the nitrate works would yet have to do what
 i had already done, and that was to stop work. They
 rk at the present prices of nitrate. If it were not for one
 t was standing out they should have had combination now,
 ould have been making £1. a ton at least out of their
 ving to the unfortunate position in which the Primitiva
 d been placed, the directors had thought it advisable to
 oposal for reconstruction before the shareholders, and ask
 rcribe 10s. a share in order to pay off the debt they owed to
 d also to pay for the ground that had been bought from
 Government. As to the property of the company, they
 their ground about 8,000,000 quintals of nitrate, which,
 a quintal, came to £100,000. Then they had got 7,000
 caliche, which they had paid for, and they had also got a
 t of stores and machinery. He would not like to take
 day for the Primitiva property, as he considered it was
 The £20,000, which a call of 10s. a share would realise
 e debts and leave a margin to go on with. He should
 e to resume work at present; but he did not think the
 distant when they would have a complete combination,
 y would be able to go on and make nitrate to be sold at a

who had inspected the property in Chili, spoke favour-
 company's prospects, and strongly recommended them to
 prices improved.

man said that to show the confidence he had in the
 might mention that he held 5,430 shares, which cost him
 50. Of course, no one could foresee that they were going
 te at the present ruinous prices.

Williams asked how long it was since the chairman sold
 shares.

man replied that he had not sold shares for years.

ms: The books show you held 16,000 shares; so that
 d over 10,000.

man: What did I sell them at?

ms: You know better than I do.

man: The shares I now hold are what I have bought
 out and saw the place myself some five or six years ago.

lder said it was a matter of common knowledge that, with
 n of Colonel North, the directors of the company held
 shares at all, that they had practically sold out long ago. It
 ed that these shares were sold at the time when the share-
 being told that the company was in a magnificent posi-
 ame!

man: I am not responsible for anybody but myself.

st: I have not sold a share for four or five years. I hold

man: My holding is 5,430, and I have not sold a share for

eton said he purchased his shares in 1890, and he had never
 dividend. As there was a considerable reserve fund he
 e would be some dividend paid the first year he was a
 but he found that had been rendered impossible by the
 ing a greater amount of dividend the year before than they
 and having afterwards to take the money out of the reserve

man said that in explanation of the dividend referred to by
 s speaker he might state that they had then so many
 s of nitrate on the way, and the price which they expected
 ustified the payment of the dividend. When the nitrate
 however, they got about 30s. a ton less than they had
 pon.

eton did not know that the explanation materially improved
 of affairs. He should like to ask why, before they were
 s the resolutions now before the meeting, they had not the
 he past year's working before them. He considered that
 had been of the most meagre description, and he defied
 ell what the company was doing from these accounts. For
 they were not presented with any accounts at all. We
 d to find further money. For what? That was the ques-
 simply to pay off the debts of the old company, or did

they hope to go on and recoup their position to a certain extent? If
 the latter he had no doubt the shareholders would fall in with the views
 of the directors; but if it was simply to pay off this £20,000. of debt
 then there was no use in going further.

The Chairman said the accounts up to June 30th last had only
 recently come to hand, and were now in the hands of the auditors.

Mr. Williams moved that the meeting be adjourned until the
 accounts in question shall have been placed before the shareholders.

A Shareholder seconded this motion.

The Chairman: I have got to put my hand into my pocket to the
 tune of £2,500. towards this reconstruction.

A Shareholder: But you have a deep pocket.

The Chairman: You want one, too, at a time like this. Continuing,
 the Chairman said they must not consider that everything was gone; it
 was only a question of not having money to go on with in these very
 trying times. They never had such times for nitrate; but he was
 satisfied the company would yet do well. He thought it was only right
 the shareholders should see the last year's accounts before going further.

The motion for the adjournment of the meeting was then agreed to.

It was stated that the accounts would be issued in the course of a few
 weeks, and that the adjourned meeting would be held as soon there-
 after as possible.

AFRICAN SALTPETRE CO.

The statutory meeting of this Company was held at Winchester
 House, E.C., last week, Mr. F. Struben, the chairman of the company,
 presiding. The chairman, after summarising the objects of the Com-
 pany, said that "allotments were made on August 1st, and, although
 another saltpetre company with more than double our capital was
 brought out on the same day as our own, you will be pleased to hear
 the whole of our shares were applied for, and are held by a very strong
 body of shareholders; so that the full working capital is provided for.
 Our manager, Mr. Arthur Struben, and our consulting engineer, Mr.
 C. G. Cunningham, both of whom have had considerable experience
 in South Africa—the former having lived there most of his life—left by
 the steamer on August 17th to take up their duties. Our manager, who
 has arrived on the spot, has taken over the possession of the properties,
 and is already at work with about 80 men. As far as he is able to
 judge within such a short period, the properties appear to him to be
 good; but being cautious, he gives us no definite opinion as to the ex-
 tent and nature of these deposits, and is waiting until he has fully proved
 it by careful examination. You will, no doubt, have read in the news-
 papers that gold has been discovered in our neighbourhood, and from
 information we have it appears that there are two gold belts existing,
 one to the east and the other to the west of us, and as they are at no
 great distance from us it is just possible they may extend into our
 properties. As to whether these gold deposits are payable still remains
 to be proved."

Mr. John Sheldrick: Is there any prospect of decent-sized samples
 being sent over?

The Chairman: The manager has instructions to take out large quanti-
 ties as soon as possible and ship them for the purpose of being sold.
 We have samples here already. The best test is to have the stuff in a
 marketable state.

DIVIDENDS.

London Nitrate.—The directors have declared a dividend of 8 per
 cent. on the preference shares, payable on the 30th inst. The books
 will be closed from the 21st to the 30th, inclusive.

International Water and Sewage Purification Company (Limited).—
 The directors have declared an interim dividend on the preference
 shares at the rate of 7 per cent. per annum.

GOLD PRODUCTION.—Crown Reef: Results for October—Yield in
 smelted gold from 120-stamp mill, 6,112 oz.; yield in smelted gold
 from cyanide works, 4,988 oz.; total, 11,100 oz. Mysore: 5,020 tons
 of quartz produced 4,337 oz. of gold; 5,206 tons of tailings produced
 973 oz. of gold; 1,890 tons of tailings (cyanide process) produced 389 oz.
 of gold; total production for the month, 5,699 oz. Wolhuter: 3,675 oz.
 from 10,190 tons; 1,565 oz. from cyanide works; total, 5,240 oz. Le
 Champ d'Or: During the month of October the mill worked 27 days;
 crushed 5,500 tons, yielded 2,888 oz.; cyanide, 4,100 tons, yielded
 1,117 oz.; total, 4,005 oz. Geldenhuis Estate: Crushed, 15,312 tons;
 obtained from mill, 4,606 oz.; from tailings by cyanide, 2,292 oz.;
 total, 6,898 oz., as compared with 7,235 oz. for September. Jumpers:
 Crushed, 9,227 tons; obtained from mill, 4,671 oz.; from concentrates,
 equal to 564 oz.; from tailings by cyanide, 1,120 oz.; total, 6,355 oz.
 Robinson: Production for October—120 stamps at work; 15,961 tons
 of ore crushed, yielded in smelted gold 12,257 oz.; from concentrates
 (by chlorination), 983 oz.; tailings (cyanide process), 1,952 oz.; from
 own ore, 15,192 oz.; from concentrates bought (by chlorination), 2,179
 oz.; total gold recovered, 17,371 oz.

SOCIETY OF CHEMICAL INDUSTRY.

LIVERPOOL SECTION.

THE opening meeting of this section was held in the Theatre of the Chemical Laboratories, University College, on Wednesday, Nov. 6th. The Chairman (Dr. Gustaf Schack-Sommer) presided, and there was a large attendance of gentlemen interested in science.

Dr. Schack-Sommer, after thanking the Society for his election to the chair, in opening his address, said it was to science, and particularly to chemical science, that as a last resource the practical farmer had to look for salvation. Only now, fifty years after the publication of the "Familiar Letters on Chemistry," in which Professor Justus von Liebig, the founder of agricultural chemistry, laid down its principles, was the British farmer becoming alive to the importance of scientific farming. Continental farmers, on the other hand, had not only applied the science of chemistry to ordinary agriculture, but since the introduction of chemical industries in connection with their farms had got better prices for their products with a remunerative use of by-products. He did not, however, propose to treat of agriculture so much as to point out to technical chemists where a field of usefulness existed for their labour in Great Britain. He complained indeed that the laws of this country not only prohibited small farmers from adopting such means of revenue as were open to their *confreres* on the continent, but seemed framed to prevent the farmer employing all the year round the large amount of labour that would be kept on the homestead if he were a manufacturer as well as a grower. These auxiliary industries existed in Germany, and why the matter should not be taken up by members of Parliament who represented agricultural districts was astonishing, instead of frittering away their efforts in useless discussions over rents, taxes, and rates. So many were the branches of agriculture dependent for success on modern scientific treatment that he proposed to select from them that of root crops, and more especially chicory and potatoes, having already read before the Society on a previous occasion papers treating of beetroot growing and the manufacture of dairy produce.

THE VALUE AND CULTIVATION OF CHICORY.

Chicory, discovered as a substitute for coffee in France and other continental countries when Napoleon, to damage the trade of England, prohibited the importation of British or Colonial merchandise, was first imported into England in 1820. It soon became one of the regular crops in Essex, Norfolk, Lincoln, and Yorkshire, but of late years its cultivation has declined owing apparently to the onerous duties imposed by the Inland Revenue Department, and because being exhaustive, some landlords forbade tenants to raise it. It had been ascertained, however, that chicory could be grown better, if anything, in England than on the continent. Nevertheless in 1894, the imports were 5,466 tons, four-fifths of which were entered for home consumption, whilst the home chicory for that year (all raised in Yorkshire) amounted to 117 tons. The total no doubt looked small in figures, but since the total consumption of coffee in the United Kingdom was only 1,200 tons per annum, chicory at once became important by comparison. (Hear, hear.) As regarded cultivation it was somewhat allied to carrots. It was sown about the end of April, and about 4 lbs. of seed went to the acre. The roots, drawn in November, yielded from one to one and a quarter tons of dried root per acre. The process of manufacture was simple. After being harvested, the root was cut into small cubes or slices and dried in kilns. It was then roasted precisely like coffee, either by itself or with the addition of one or two per cent. of fat. When roasted the chicory was ground and sorted into separate grades through sieves. Afterwards it was placed in a damp cellar or warehouse to absorb moisture. This enriched the colour, and resulted in a dark brown, tough, crumbly powder, similar in appearance to ground coffee. As a chemist he did not for a moment recommend chicory as a dietetic. It contained no nutriment, and was neither a stimulant nor a condiment; it did not stimulate digestive secretions like coffee, nor had it, like coffee, any effect on the nervous system. It was simply an adulterant. Still, there was a commercial demand for it, and as they were interested in its money value there was no reason why the demand should not be supplied by the British as well as by the continental farmer, more especially when its manufacture afforded employment in rural districts during the slack season.

FACTS ABOUT POTATOES.

From a crop of comparatively small value he passed to one of great importance to both the farmer and the chemist—the potato crop. Although the potato crop was a paying one in the United Kingdom, insufficient was grown to supply the consumption for food alone, and large quantities had to be imported from the Continent. In spite of this remarkable fact, the acreage under cultivation in these islands was still diminishing, though increasing on the continent. In 1893 the acreage in the United Kingdom was 1,251,556; in Germany, 7,501,061; in Austro-Hungary, 4,003,413; and in France, 3,777,391. This decline in the crop of the United Kingdom was all the more astound-

ing since the agricultural returns showed conclusively that the crop was more prolific in our country than in any other. Like chicory, potatoes were an exhausting crop. Analysis showed that a large extent of potassium, phosphoric acid, and nitrogen was taken up. These were constituents which in scientific farming replaced in suitable manures. Curiously enough, the import of manure had declined even more rapidly than the growth, which showed they were losing their hold on the public taste as an article of food, probably because, from their increased wealth, the wage-earners were living on more expensive foods, such as meat and fish. The whole of the potatoes used in Great Britain were consumed in Great Britain. What was lost to this country through not producing more was actually required for food, but in having no manufactures dealing with agricultural produce, was incalculable. Dealings with manufactures connected with potatoes, Dr. Schack-Sommer attention first to that of starch. In England raw material starch factories were rice and Indian corn; for whilst potatoes gave 20 lbs. of starch, wheat gave 60 lbs., maize 66 lbs., and rice every 100 lbs. weight. However, potatoes grown within a radius of the factory would compete favourably with rice and maize. On the continent these agricultural manufactures were encouraged. The making of starch from potatoes was one of the simplest methods of manufacture known, whilst the fibrous matter of the potato detached in the process (about 10 per cent.) was used for cattle feeding, and mixed with a small portion of oilcake to make up the albuminous matter of a nutritive food. The water from starch manufacture was used as pastures as liquid manure, conveying phosphoric acid and starch sugar, produced from starch by the action of malted barley, diluted acid, had become an important article of commerce in the hands of confectioners, brewers, jam boilers, and others. As a preservative it was useful and cheap, and prevented crystallisation in a brewing it was largely used to replace malt. Its substitute in this country, 28 lbs. of it being equivalent to a bushel of malt, in Germany it was produced chiefly from potatoes. The commerce was a mixture of starch, sugar, and dextrine, the latter the present well-known high pressure process of making it. In Manbré. There was a large field open for English capital to enter in this direction, for the imports of glucose in 1894 amounted to 1,062,074 cwt., of the value of £542,195 sterling.

AGRICULTURE AND DISTILLATION.

Turning to the manufacture of potato spirit, Dr. Schack-Sommer marked upon the persistent resistance of the Excise authorities to the introduction of new methods and improvements, because, Excise officers being in most cases without the necessary knowledge to understand the process, it was feared the brewer would hoodwink them. One consequence of this was that brewers or distillers did not see the need of employing well-scientific men to manage their undertakings, and rule-of-thumb management reigned supreme. In the whole of the distilleries of England and Wales not more than four scientifically-trained chemists could be found. On the continent all large establishments employed two or three chemists. In England the smallest size of still allowed was 400 gallons. The object of this was to restrict the manufacture to few hands, and to make the revenue from spirits more secure and the expense of running and supervising it less. Moreover, the law at present prohibited farm distilleries, which were unknown in the Continent. Evidence given before the Royal Commission that the potato spirit imported into England was the purest that could be produced, and that popular prejudice against it was without scientific foundation, all practical purposes it was fully equal to that made from cereals. In 1894 the quantity of plain foreign spirit imported was 1,176,443 gallons. They might safely assume that most of this was distilled from potatoes. It was plain that the establishment of farm distilleries in this country would be an important boon to the agricultural industries he had noted would help farmers to make better use of their land, give increased and more steady employment in the districts, and enable good use to be made of much land now lying idle.

A brief discussion followed, the meeting expressing a strong opinion that such matters should be brought before the Royal Commission.—The meeting closed with a hearty vote of thanks, by Mr. Eustace Cary and seconded by Prof. Campbell-Bell. J. W. Towers (Widnes) exhibited some special glass apparatus for chemical analysis.

NOTTINGHAM SECTION.

The first meeting of the present session of the local section was held on Wednesday, November 6th, at the University College, Nottingham, when the chairman (Mr. F. J. R. G. Derby) delivered his opening address. The Chairman's address was mainly an appeal for the establishment of some organisation for the better preservation of the journal of the society, the early issues of which were becoming extremely rare owing to the disposition

on the work as ephemeral on the one hand and the market for the publication when from any cause it is by any owner. For want of such an institution the metimes destroyed, and considering the interests in the work, Mr. Carulla thought there was ample room for a clearing-house for the purchase of books at fair prices, made to depend on supply and the value of the shares in the Stock Exchange. The matter was illustrated by the sums annually raised by various societies that foster particular sciences or their transactions and journals. The following examples:—The Institution of Civil Engineers, £3,450; the Royal Society, £3,450; the Chemical Society, £3,051; the Society of Arts, £2,300; the Institution of Mechanical Engineers, £1,300; the Iron and Steel Institute, £1,300; the Institution of Electrical Engineers (nearly), £1,300. A suggestion was made in the address, that a lending library should be formed by the section on the lines of one already in existence. Respecting this, Mr. Carulla said: Most of us have some books connected with our common studies which we may value, yet would be willing to lend assuming their safe return within a reasonable time. Such a library, as is sufficiently proved by the fact that a lending library could be formed and worked in the *Nineteenth Century* of last June, under the title of "Book Lending," the idea in that case being to provide a general library, the federation being formed by the various societies. Mr. George Somes Layard, the author of the address, had evidently no cognisance of the scheme of book lending, at my suggestion, by the Derbyshire and a notice of which appeared in the *Derbyshire* of Oct. 19, 1893. A new method of reproducing chemical means (not by photography)—the invention—was referred to during the course of the address of original matters with the resulting faithful facsimiles exhibited. In no instance is the original injured by the process, and both sides of a printed paper can be reproduced. The chairman concluded by congratulating Birkenhead on the re-establishment of a section of the Society in that city.—On the motion of Dr. F. Clowes, M. C. Paton, a vote of thanks was accorded for the address and duly acknowledged.—Dr. Clowes announced that he had kindly agreed to favour the section with a lecture on "Helium." The fame of the co-worker with Lord Kelvin in the field of research should ensure a good attendance. The proceedings then terminated.

ALUMINIUM SOLDER.

By JOSEPH RICHARDS.

Mr. Deville first made aluminium on a large scale, it was a most difficult problem to solder it satisfactorily. The alloys used for soldering were found not to attach themselves, despite every usual precaution, and it was seen that a new method must be devised to meet this unusual problem. A goldsmith, of Paris, gave the subject his special attention, and covered that aluminium was wetted by, and could be soldered with, either pure zinc or pure tin. It is indeed a most difficult problem to solder it satisfactorily. The metals hold firmly to the aluminium, but the zinc crystalline, will not stand working, and discolours the metal, while the tin seam has the disadvantage of discolouring the pieces in a few weeks. This latter is due to the fact that certain alloys of tin and aluminium are spontaneously by the action of the air. This is particularly so in the case of small proportions of aluminium, up to 10 per cent. if a bar of such alloy is left in the air, and portions at regular intervals, a change will be visible in the metal; from the outside towards the centre; and while at first the metal is tough, it gradually becomes more and more brittle, when the change has reached the centre, it is a stem. I have observed a bar, $\frac{1}{8}$ inch thick, to become all through in three weeks, and on thinner sections the change is more marked. Tin containing 0.5 per cent. of aluminium, while it rolled beautifully, yet in two hours the sheet was as brittle as glass. Now, bearing these facts in mind, it is easily understood why a joint soldered with tin and aluminium attaches itself to the aluminium by forming an alloy, and this alloy decomposes in a short time. A serious task to catalogue all the different metallic alloys has been proposed for soldering aluminium since Mr. Deville's experiments in 1855. Alloys of aluminium and zinc were proposed, but were found to be too brittle. M. Hulot

proposed to first plate the aluminium at the joint with copper, and to solder the coppered surfaces with ordinary solder.

At length, the Société d'Encouragement offered a prize for a solution of this problem, which was awarded to Mourey, a Parisian goldsmith. His best solders were alloys of aluminium and zinc, to which small proportions of copper were added, to give them toughness. The chief difficulty with these solders is their high melting-point; the zinc, which melts only at incipient red heat, being the most easily fusible ingredient.

For brazing and blow-pipe work, such high-melting alloys can be used, and the addition of a little silver improves them still more; but none of them can be regarded as convenient for use with the soldering-iron.

It has been claimed that by using silver chloride as a flux, aluminium can be soldered in the ordinary way with ordinary tin solder; but this method has not proved satisfactory in practice, and, even if it were, the flux is too expensive.

Starting with a full understanding of the difficulties of the problem, and a knowledge of what had been previously tried and found wanting, I proceeded with the object of finding, if possible, a solder which should have the following qualifications:

- (1) It must wet the aluminium and adhere firmly;
- (2) It must not disintegrate after exposure to the air;
- (3) It must be as malleable and strong as aluminium;
- (4) It must have a low melting-point, so as to be easily worked with a soldering iron;
- (5) It must have the same colour as aluminium, and not change colour; and
- (6) It must be cheap enough for general use.

After experimenting about two years, it was finally found that an alloy of zinc and tin in certain proportions, containing a little aluminium and some phosphorus, realised almost every qualification. The alloy used for some time was made by fusing together:

	Parts.
Aluminium.....	1
Ten per cent. phosphor-tin.....	1
Zinc	8
Tin	32

It was found, however, that, on re-melting this solder, a more fusible alloy liquated away from it. It appeared reasonable to assume that this more fusible part was a true alloy of zinc and tin, and, therefore, a more stable compound. This fusible portion was also found to solder better than the original mixture. This liquated solder was therefore analysed, with the result that its composition was found to be very close to that expressed by the formula Sn_4Zn_3 . The solder which I now use is made to correspond closely to this formula. It is obtained by using the ingredients in the proportions 1, 1, 11, 29, instead of 1, 1, 8, 32, as previously described. The percentage composition of the several alloys described may be thus compared:

	Original Solder.	Found in the Liquated Alloy.	The Formula Sn_4Zn_3 Calls for	Solder, as now Made, Contains
Aluminium....	2.38	....	....	2.38*
Zinc.....	19.04	....	29.3	26.19*
Tin	78.34	71.65	70.7	71.19
Phosphorous ..	0.24	....	....	0.24

* Zinc + Aluminium, 28.57 per cent.

The percentage of zinc in the new solder is lower than called for by the formula Sn_4Zn_3 ; but since aluminium and zinc are metals having many physical analogies, it was thought advisable to bring the combined percentage of these up to that required for the zinc alone. Further, as the tin is most liable to lose by oxidation during the mixing of the solder, it was thought best to have it slightly in excess.

The result of these investigations were demonstrated by specimens of soldering presented for inspection. As practical usefulness is a fair criterion of the value of an invention, I may be permitted to mention that this solder has come largely into use in Germany, Switzerland, England, and our own country.

It must be remembered that at present the demand for an aluminium solder is limited. About 4 tons of aluminium are now produced daily in the world, but fully 75 per cent. of this is used in the steel industry and in making alloys; while, of the remaining 25 per cent., which is rolled, spun, cast, or stamped into pure aluminium articles, probably not 10 per cent. is in such shape as to require soldering. Assuming, then, an average of 200 pounds a day of aluminium articles to be soldered, a daily supply of a very few pounds of solder would meet the entire demand.

It does not require the prophetic eye, however, to see that the 1,000 tons of aluminium produced during 1893 will probably reach 10,000 tons a year within the next ten years, and that with increased production the demand for a good solder must correspondingly increase.

In conclusion, I wish to add that I am indebted to my son, Dr. J. W. Richards, of Lehigh University, for chemical analyses and other aid in preparing this solder.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

- Treating Bones and Mineral Phosphates for Fertilizers. R. Silcock. 20,303. October 28.
 Sewage Treating Compositions. G. C. Kinloch, Chas. Heap, and J. H. Butterworth. 20,355. October 29.
 New Method of Sewage Precipitation. G. C. Purvis. 20,366. October 29.
 Manufacturing Metallic Fluorides. W. Mills. 20,377. October 29.
 Removing Suint from Wool, Separating and Recovering the Constituents. H. E. Newton. 20,433. October 29.
 Process and Apparatus for the Manufacture of Ozone. C. J. Yarnold. 20,441. October 29.
 Converting Weldon Mud into a Marketable Pigment. P. Cannell-Bunn. 20,448. October 30.
 Apparatus for Generating Acetylene Gas. J. H. Exley. 20,453. Oct. 30.
 Automatic Apparatus for the Manufacture of Acetylene Gas. J. E. Atkinson. 20,468. October 30.
 Manufacture of Chemically Prepared Peat Fibres. C. Geige. 20,501. October 30.
 Electrolytic Decomposition of Brine. G. Bell and G. W. Bell. 20,542. October 31.
 Treating Zinc Ores. S. O. Cowper-Coles and C. R. G. Smythe. 20,635. November 1.
 Bleaching Paper Pulp. J. Tait. 20,652. November 1.
 Manufacture of Cements from Blast Furnace Slags. R. Grant. 20,653. November 1.
 Apparatus for Generating Acetylene. J. H. Exley. 20,727. November 2.
 Improved Tanning Extract. A. Levinstein. 20,736. November 2.
 Apparatus for the Manufacture of Ammonia. F. W. Saatmann. 20,752. November 2.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

An Improved Method of Filtration for Waters, Sewage, and other Liquids. W. J. and C. J. Lomax, 11, Fold-street, Bolton. Eng. Pat. 19,761. Oct. 17, 1894.

The chief aims are to arrange the filtration so as to allow time for the repeated aeration of the filter bed, and to provide for the complete distribution of the liquid to be filtered over the whole surface of the filter bed without disturbing the filtering medium.

At one end of the filter bed is a trough fitted with several syphons or other discharging devices which operate when the liquid in the trough reaches a certain height. When these vessels or syphons discharge on to the filter bed their contents first pass into channels disposed on the surface of the filter, the edges of the said channels being covered with strips of canvas, over which the liquid flows, gently flooding the whole of the filtering surface. When thus flooded the liquid sinks slowly down through the filter and escapes into an outlet channel, each flushing being followed by a period during which air enters into, and permeates the filtering medium, thereby maintaining the filter in a high state of efficiency.

Improvements in and connected with the Electro-deposition of Aluminium and Aluminium Alloys. P. Marino, c/o Mr. Vincent, 1, Avenue Victor Hugo, Vanves, France. Eng. Pat. 20,354. Oct. 24, 1894. (Under International Convention, May 31, 1894.)

The patent sets forth the composition of special electrolytes from which aluminium or alloys of this metal, with tin, nickel, lead, zinc, etc., are deposited upon metallic or metallised articles in the form of a dense adherent coating.

Taking aluminium as an example, a kilogramme and a half of well-washed aluminium hydroxide is placed in an acid-resisting vessel and completely dissolved in hydrochloric or sulphuric acid. To this 15 grammes of an organic acid, such as tartaric or citric acid, any saccharine substance, a primary alcohol, or an albuminate, are added, and the mixture treated with nitric or hydrofluoric acid until it coagulates. The coagulated mass so obtained is dissolved in a solution of caustic soda or potash, and about 400 grammes of potassium cyanide added, with enough distilled water to bring the volume to four times the total bulk attained up to this point. The whole is boiled for 15 to 20 minutes, the liquid changing from a yellowish to a dark brown colour. After cooling, 15 grammes of calcium or barium hydroxide are added, and when filtered the bath is ready for use.

The methods for preparing the other electrolytes are given, and differ mainly in the initial stage, the other steps being much the same.

All the electrolytes work at the ordinary temperature, which may vary from 40° to 80°C., with a strong current of 10 volts and 100

amperes. It is claimed that the aluminium so deposited is not attacked by hydrochloric acid or alkalis.

An Improved Apparatus for Icemaking and Refrigerating. A. Glasson, 339, Upland-road, Dulwich. Eng. Pat. 21,509. Nov. 8, 1894.

This invention refers to a machine to be used with sulphurous acid, anhydrous ammonia, or carbon dioxide, for refrigerating purposes. The special feature is that a portion of the refrigerating agent is raised to a higher temperature and pressure, and utilised in driving the machine without the aid of any steam engine or boiler, and by the most simple form of heat transmission of low intensity. Any substance with a temperature of not lower than 150°F. will work the apparatus. For particulars, the drawings must be consulted.

An Instrument for Measuring the Draught in Chimneys, Flues, and the like. B. G. P. Möller, Kolding, Jutland. Eng. Pat. 16,365. Aug. 31, 1895.

A movable vane, the axis of which carries an external recording finger, is fitted in a cylindrical metal casing, resembling in appearance an ordinary steam gauge, so that the fixed support carrying the axis and the upper part of the vane divide the casing into two compartments, one of which is provided with an inlet opening, and the other with an outlet. The vane is kept in a vertical position by a bob working on a regulating screw attached to the end of the vane. The outlet is coupled to the chimney to be tested. The draught induces a current of air to enter the casing which, impinging on the vane, deflects it, the angle of deflection being shown by the external finger and an empirically divided scale plate. On disconnecting, the bob swings the vane back into a vertical position, and retains it there until the equilibrium is upset by the suction of the chimney on re-coupling. If preferred, a spring may be used in the place of the weighting bob.

Improvements in the Production of Copper by Electrolysis, and in Apparatus employed therein. J. C. Mewburn, 55, Chancery-lane, London. (Communicated by La Société l'Electrolyse, 27, Fausbourg Poissonniere, Paris.) Eng. Pat. 25,145. Dec. 27, 1894.

Hitherto it has not been possible to make copper obtained by electrolysis usable directly on a cheap or commercial scale, owing to necessity of using very weak currents. When strong currents are employed polarization assumes a serious aspect, and the deposit lacks cohesion.

To overcome this, the patentee proposes to use a cylindrical mandrel as the cathode, which is not completely immersed in the electrolyte and is mechanically rotated, so as to bring different parts into successive contact with the air. The combined rotation and exposure of the cylindrical cathode accomplishes the ready removal of the hydrogen. This is further ensured by the cylinder being rubbed or wiped as it emerges from the electrolyte. As the current is increased so the rate of rotation is accelerated.

TECHNICAL ANALYSIS OF ASPHALTS.

BY SAMUEL P. SADTLER, PH.D.

IN an article published in December, 1894, Miss Laura A. Linton gave, under the above heading, a most valuable discussion of the present methods of asphalt analysis. As she well says, the "petroleum" of the writers on asphalt "is nothing but a name that covers a great variety of substances, radically unlike, that exist in different forms of bitumen, and are only related in this instance as being held in solution by a certain limited number of menstrua, and which include the whole list of paraffines and isoparaffines, the olefines, the benzenes and additive benzenes, with many other less abundant and well-known substances." Similarly, "in a general way, it may be said that asphaltene is that portion of the different forms of bitumen that is soluble in carbon disulphide, chloroform, benzene, and a few other less known liquids, and is not soluble in the menstrua that dissolve petroleum."

Miss Linton recommends, therefore, as a process for uniform treatment of asphalts, to digest them first with petroleum ether, decanting the liquid upon a filter, and ultimately the undissolved bitumen also. After getting the weight of the filter and contents, it is treated with boiling turpentine, with which it is digested for some time, the funnel being covered. After repeating this treatment until the filtrate becomes colourless, chloroform is taken to finish the extraction of the asphaltene. After another weighing of the filter and its contents, it is to be burned in a platinum crucible, in order to determine the organic non-bitumen and ash.

This process of Miss Linton, while giving results that are comparable, becomes very tedious in practice, besides requiring the use of three solvents, of which one (the boiling-turpentine) is unsatisfactory because of its resinous and sticky tendency.

I have sought, therefore, to find a more expeditious process without sacrificing completeness of extraction, or allowing the results to fall in comparability.

is in view, I have chosen a form of apparatus in which a s extraction can be carried out without requiring the trans- the weighed sample from one vessel to the other. The hosen are definite compounds of fixed boiling point, which s be had pure and subject to no alteration; the extraction ontinuously at the boiling point of the solvent; and the e recovered for use again.

vents chosen are acetone, as a substitute for the petroleum r the extraction of the petroleue; and chloroform for ction of the asphaltene. Both acetone and chloroform ad perfectly pure, and are not alterable, so that they stinct advantages over petroleum ether and carbon disul-

alysis is carried out as follows:

estros filter is made in a weighed Gooch crucible, and dried. grams of fine white sand, previously ignited and cooled, is d a piece of stout platinum wire, about 3 inches long, is the crucible, and the whole dried to a constant weight at

to 2 grams of the asphalt, in fine powder if a solid, are ntly mixed with the upper portion of the sand layer with the e platinum wire, care being taken not to disturb the asbestos w. The weight of the whole is accurately taken, inclusive of nd the crucible, and its contents are then dried at 100° C. to t weight, either in an air bath or water oven, cooled in a , and weighed. If the sample be a maltha (liquid bitumen), y mixed with the sand layer, after slightly softening it with f the drying oven. The loss at 100° C. is calculated and moisture and loss at 100° C." The crucible and its contents laced in a continuous extraction apparatus, formed by placing ercolator within a larger one, the inner one being held in y a perforated cork. The crucible having been placed in the olator, the outer one is connected with a flask containing the nd with an upright condenser. The flask is heated either on h or a water bath, the former being preferable, since when lated it needs no attention or renewal as does the water bath. ction with acetone, which is first undertaken, is continued oss on extracting for two hours is not more than 1 or 2 milli- he loss of weight after this extraction, as compared with the starting the extraction, is calculated and called "petroleue." ction is then continued in the same manner with chloroform, final loss is the "total bitumen." The time necessary a thorough extraction varies greatly with the different but will not amount to more than twelve hours for the nd eight hours for the chloroform extraction. The loss in ould be taken first after four hours, and then every two hours extraction is complete, the crucible and contents being dried , and cooled in a desiccator each time. The residue in the hen represents the organic non-bitumen and mineral matter. ted after placing the cap on the bottom of the crucible, and alculated as "organic non-bitumen," while the remainder is eral matter" or "ash."

ite analyses of two well-known varieties of asphaltum were test the method:

REFINED TRINIDAD ASPHALT.				
	I.	II.		
etrolene	46.40	46.41		
phaltene	15.14	15.20		
ganic non-bitumen	3.02	2.95		
neral matter	35.44	35.44		

REFINED BERMUDEZ ASPHALT.				
	I.	II.		
etrolene	66.47	66.45		
phaltene	29.66	29.71		
ganic non-bitumen	1.76	1.73		
neral matter	2.11	2.11		

example of a maltha, or liquid bitumen, examined by this may be given the following analysis of

ALCATRAZ LIQUID ASPHALT.				
		Per cent.		
etrolene		89.21		
phaltene		9.39		
ganic non-bitumen		Trace		
neral matter		1.40		

lishing this note I wish to acknowledge my indebtedness to Mount Hunter, my assistant, for the very intelligent and skill which he has carried out most of the experimental work.

SAND AND GOLD PRODUCTION.—The total output from the Rand ring the past month amounts to 192,652 oz., and shows a of 2,112 oz. as compared with the previous month's total, and se of 21,386 oz. as compared with the corresponding month of

IMPORTS AND EXPORTS FOR OCTOBER.

The Board of Trade returns for the past month are decidedly satisfactory. In the imports, chemicals and petroleum are both higher in value, though the latter is smaller in quantity. In the exports, alkali, bleach, and chemicals are about the only articles less in value, with the exception of certain raw materials.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

ARTICLES.	Quantities.	
	1894.	1895.
Margarine	Cwt. 90,171	92,422
Copper Ore and Regulus	Tons. 11,649	20,587
Pyrites	" 39,699	40,359
Tin	Cwt. 73,883	74,443
Alkali	" 15,148	13,042
Brimstone	" 55,205	39,663
Dyes, Coal Tar	℥. 71,955	66,913
Saltpetre	Cwt. 23,067	19,333
Petroleum	Gall. 18,498,358	15,248,848
Turpentine	Cwt. 22,542	64,315
Guano	Tons. 1,059	1,425
Nitrate of Soda	" 13,019	7,237
Paraffin	" 69,134	70,168
Rosin	Cwt. 49,916	114,494
Tallow and Stearine	" 174,915	136,463
Oil Seed Cake	Tons. 18,069	21,060
Wood Pulp	" 22,225	28,114

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

ARTICLES.	Quantities.	
	1894.	1895.
Alkali	Cwt. 645,470	624,089
Cement	Tons. 33,301	31,532
Coal and Coke	" 2,915,527	3,068,587
Copper, all kinds	Cwt. 99,558	114,581
Iron and Steel	Tons. 241,270	268,333
Chemical Manures	" 18,475	23,093
Oils, seed	" 4,115	3,995
Salt	" 55,743	70,417

Trade Notes.

THE DISCOVERY OF ARGON.—Lord Rayleigh and Professor Wm. Ramsay called at the United States Embassy, in London, last week, when Mr. James R. Roosevelt, First Secretary, handed to them a cheque for \$10,000, which had been granted by the Smithsonian Institute at Washington as the 1st Hodgkins Prize, for their memorandum on "Argon, a new constituency of the atmosphere," embodying a most important discovery in connection with atmospheric air.

OIL PROSPECTORS ON THE JORDAN.—According to consular reports it is the intention of the Turkish authorities at Jerusalem to establish a steamship line on the Dead Sea. The existence of asphalt in that region has been ascertained, and it is supposed that petroleum will be found also. A rational development of the Jordan valley from Lake Tiberias down, and especially the opening up of the rich mineral resources of the Dead Sea basin, is considered a very profitable undertaking, for which, however, foreign capital will hardly be found, as the legal status of property holders in those regions is very unsafe.

FIRE IN A DARWEN PAPER MILL.—On Monday evening a fire occurred at Messrs. Potter's Hollins Paper Mill, Hollins Grove, Darwen. The outbreak occurred about nine o'clock, and was discovered in the rag-chopping room by a workman named Thomas Edge, who was employed at the mill. He at once gave an alarm, and Mr. Hitchon, the manager, and a number of the workpeople set to work with buckets of water. In the meantime information had been conveyed to the police and fire stations, and the brigade and a body of police were soon on the scene. The efforts of the men who had been casting water on the flames had been unsuccessful in staying their progress, and by the time the brigade arrived the flames had secured a good hold of the room. The brigade therefore devoted their energies to saving the other parts of the building, and to confining the outbreak to as small an area as possible. Soon after ten o'clock it was seen that the fire had been controlled, or that it had spent itself, and by a little after eleven the conflagration was practically at an end. The damage is estimated at about £2,500.

THE CYANIDE PROCESS IN NEW ZEALAND.—In connection with reports on the development of the New Zealand goldfields it is stated that the proportion of bullion extracted there by the cyanide process is steadily increasing. For the year ended June 30, 1894, the amount extracted by the cyanide process was £61,537; for the year ended June 30, 1895, £159,320. For the first two months of the next quarter bullion to the value of £31,161. was thus saved. It is stated that "the Government are likely to be urged to approach the Cassel Company with a view to the purchase of their rights in the colony."

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols, now they have advanced in price, are moving but slowly as compared with the last few weeks, and nearest values are about 1s. 4½d. for 90's and 1s. 3½d. for 50/90's. Carbolic acids are in good demand, with an advance to 5½d. in the case of 40% crystals, while 60% crude is steady at 1s. 7d. There is no change in crude naphtha, which still stands at 5½d., but solvent is rather easier at 1s. 2d. Anthracene steady at 11d. for 30% A. Creosote and pitch unaltered, the latter being firm.

Sulphate of ammonia is not very strong. In the North makers are making a mild stand, but it is not unanimous, and the markets at all ports are flat. Values as quoted are:—Beckton £9., London outside makes £8. 15s., Liverpool £8. 15s., Leith £8. 13s. 9d., and Hull £8. 15s. For the first months of 1896 sales are reported at Leith for £9. 5s. There is no information, however, as to the size of the parcel. Nitrate is easy.

REPORT ON MANURE MATERIAL.

The market continues to be very quiet, and there is no change of importance to note in prices. The quotations for mineral phosphate are as last reported, but we do not hear of any important business resulting. It is reported that something under £4. per ton has been accepted for a cargo of River Plate bones of large size, and that £3. 17s. 6d. per ton has been cabled out and refused for another. Crushed Kurrachee bones, for shipment, may now be had at £4. per ton, and something under this price would most likely do for Bombay bone meal for prompt or early shipment. Nitrate of soda is rather weaker, there now being sellers of fine quality at 7s. 7½d. per cwt. The quotations for cargoes afloat, too, are somewhat easier.

LIVERPOOL MINERAL MARKET.

The firmness in our market reported last week has not only continued but increased, whilst in some articles there is a decided advance. Manganese: Arrivals have somewhat improved, but as they have gone into direct consumption, stocks are materially reduced, and prices are unaltered, with a firm tendency. Ground manganese continues in good request at unaltered prices—£6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore is quiet at 16s. to 17s. 6d. per ton, c.i.f. Chrome ore: Arrivals are practically nil, whilst quantity afloat is rather small; therefore, with a strong demand and the present complications in Asia Minor, which may ultimately stop shipments, we may see a strong advance in prices, with short supplies. Bauxite is in good demand at prices as last quoted—20s. per ton for first quality, 16s. per ton for second quality, and 12s. per ton for third quality, f.o.b., in cargoes. French chalk: Although arrivals have somewhat improved, they scarcely keep pace with the increased demand, and prices are therefore somewhat advanced, and the probability is that they will go higher—70s. to 75s., 80s. to 90s., and 100s. to 110s. per ton for "Angel White" brands, according to quality. Wolfram and scheelite: Whilst there is more offering, prices are firm at the last quotations. Arsenic is in good request. Fuller's earth is somewhat easier, but prices are firm as last quoted—50s. for lump, 55s. for powdered, and 70s. per ton for impalpable powder. Ochres and umbers are steady at recent prices. Carbonate of barytes: The production has somewhat improved, especially of the high class quality, and prices are easier; of sulphate, on the other hand, prime quality is scarce and in good demand. Bog ore is steady at 22s. 6d. to 25s. per ton. China clay continues in fair demand at unaltered prices—20s., 30s., and 35s. per ton, according to quality. Plumbago meets with a good demand for foundry and lubricating purposes at from £6. to £10. per ton, according to quality. Kieselguhr: The demand continues to increase, and prices are firmer.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY

OILS.—Palm oil is quiet, with some sales of Lagos at £20 ex quay and £20. 10s. transit. Olive is in moderate consumption demand, without change in prices. Linseed is very quiet: Live makes, in export casks, are quoted 21s. 6d. to 22s. per cwt. Castor keeps firm, with Liverpool refined at 17s. 9d. to 18s. 3d. American 17s. 9d. per cwt. Castor oil is very steady for all grades good seconds Calcutta is quoted at 2½d., and first pressure French been sold at 2½d. per lb., ex quay and store. Tallow is fairly inquired for, prices keeping steady. Resin maintains its firm position though there is scarcely so much business passing. Spirits of turpentine are in fairly good request, at 20s. 6d. per cwt. Petroleum steady advance: American 6¼d. to 7½d., and Russian refined 6d. gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Um Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red unchanged. Venetian red, £6. to £10. Cobalt: Prepared 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, Zinc oxide, £22. 10s. to £25.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Fig iron, firm: Scotch warrants at 47s. 0½d.; Middlesbrough, 38s. 3d. cash, and hematite, 48 Copper, firm: Chili bars, G. O. B.'s and G. M. B.'s close £44. 10s. to £44. 15s. cash, and £44. 17s. 6d. to £45. 2s. 6d. months. Tin, steady: Straits closed at £65. 12s. 6d. to £66. 2s. 6d. and £66. 5s. to £66. 15s. three months; Australian, £66. 10s. B ingots, £68. 10s. to £69. Lead, firm: Spanish, £11. 7s. 6d.; English, £11. 10s. to £11. 12s. 6d.; Silesian spelter, ordinary, £15 3 Nickel, 1s. 1½d. Antimony, £31. Quicksilver: first hands, £7. 7s. second hands, £7. 6s. Copper shares, steady: Cape, 2½ to Copiapo, 1½ to 1¾; Libiola, 2¼ to 3; Mason and Barry, 2 2½; Rio Tinto, 15½ to 16; Tharsis, 4½ to 4¾.

GLASGOW, WEDNESDAY.—Market active. Business large. S done at 46s. 10½d., 47s. 1d., and 47s. 0½d. cash, also at 47s. 1 47s. 1d., and 47s. 3½d. one month; closing with buyers at 47s. cash, sellers ask 47s. 1d. Cleveland done at 38s. 1½d. cash, 38s. 3d. and 38s. 5d. one month; closing with buyers at 38s. 3d. sellers ask 38s. 4d. Cumberland hematite done at 48s. 2d., 48s. and 48s. 1d. cash, also at 48s. 5d., 48s. 3½d., and 48s. 6d. one month closing with buyers at 48s. 3d. cash. Middlesbrough hematite with buyers at 45s. 10½d. cash, sellers ask 46s. 1½d.

MISCELLANEOUS CHEMICAL MARKET.

The demand continues fairly active in all branches of the alkali demand being especially good from the United States, both for king powder, soda ash, and caustic soda. Prices all round, be prompt and forward, are very steady: Bleaching powder on the selling freely at £7. at makers' works, and £7. 5s. to £7. 7s. 6 ton, f.o.b. Liverpool. Alkali, 58%, bags, £3. 7s. 6d. per ton, in works, and £3 17s. 6d. to £4., casks, f.o.b. Caustic soda usual current quotations being for spot delivery as follows: F.o.b. Live 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 60%, £6. 10 per ton, 10-ton lots and upwards. Soda crystals quiet, and unchanged in value at 37s. 6d., bags, makers' works. Chlorate of potash, to 4½d. per lb., prompt and forward delivery. Chlorate of soda scarce at 6½d. per lb. Saltcake 25s. to 27s. 6d. per ton, in bulk. Sulphate of copper steady at £16. 5s. to £16. 10s. per ton. White powdered arsenic still very scarce at £15. 10s. to £16 net, at Garston, London, etc. Arseniates are also rather dear. Potash, caustic and carbonate, continue in fairly active demand prices are firm: Carbonate, 90/92%, at £17. to £17. 10s., 2½ best makes. Acetates of lime are without quotable change, the market is firmer, owing to advanced freights. For all other there is only moderate inquiry, and no improvement can be seen in values. White sugar of lead and nitrate of lead are only in demand. Nitrate of soda still sells on the spot market at £7. 12. 6d. per ton, but it is firmer for forward shipments. Prussiate of potash steady at 7½d. to 7¾d., according to Sulphocyanides quiet. Carbolic acid crystals are in better demand and price has improved a little.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

is for the most part indicate a better feeling, and rather more in the general market. Stocks are under the average, and all firm. Bleaching powder in the hands of some makers gives of a fractional rise. There is also a more assured feeling of mineral oils and paraffins, recent disquietudes having been, and a more confident frame of mind resumed. Prices are well held, and deliveries of burning oil and solids continue to early winter mark. Paraffin spirit (naphtha) retains its late value, but if the Scotch ship yards close off definitely for a period, it is threatened at the moment, this article will fall, these yards are the largest customers. The best that can be said for sulphate of soda is that it is no worse than it was a week ago. Sellers for cannot get £8. 15s. readily, but at the same time they are very glad to take less, though less has been taken. One maker has £9. 5s. for delivery early in the year.

Prices current are:—Soda crystals, £2. 2s. 6d., home, nett, Tyne; 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett, Tyne; caustic soda, white, 74° 9., 70/72° £7. 15s., 60/62° .. and cream 60/62° £6. 10s., all nett, Liverpool; bleaching £6. 15s. to £7. 5s. nett, Tyne; saltcake, 22s. 6d.; borax, English, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; sulphate of potash, 4½d. nett, for Scotch and English deliveries (for 4½d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); of potash, 4¾d. less 5%, Liverpool; nitrate of soda, 7s. 7½d. sulphate of ammonia, £8. 13s. 9d. to £8. 15s., prompt, f.o.b. sal ammoniac, first and second white, £39. and £37. nett, any sulphate of copper, £16. 15s., less 5%, Liverpool; paraffin oil, 2½d., and soft, 1½d. to 2½d. per lb.; paraffin wax, 120° melted, 2½d. to 2¾d.; paraffin spirit (naphtha), 8½d. to 9d. per gallon; paraffin oil (burning) No. 1, 6½d., and crystal, 6¾d., at works, ch. buyers (English sales about 1d. lower); ditto (lubricating) 7s. 6d. to £4 15s., 885° £5. to £5. 5s., and 890 895° .. to £6. 10s. Week's imports of sugar at Greenock were 100 cwt. beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals are only quiet, and shipments moderate. Prices are generally unchanged. Soda crystals, £2. 2s. 6d. to £2. 5s., gross locally. 76/77% caustic, £9. 5s. per ton. Bleaching powder, 5s. to £7. 5s., according to destination. Sulphur still very low at £3. 17s. 6d. to £4. per ton. Bleaching powder, soft, £7. 5s. per ton, nett; hard, £7. 10s. per ton, nett; caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; do., 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ton, nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 10s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; 60° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 5s. per ton, nett; weight; do., 2 cwt. bags, £2. 5s. per ton, nett weight; sulphate of potash, 5d. per lb., less 6%; pearl hardening, 10s. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, 5s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, 25s. per ton, nett.

T.—South Durham salt is steady, at 9s. to 9s. 6d. per ton, Tees.

COALS.—Steam coals are perhaps rather steadier, and there is a fair demand. Household coals are in increased demand, and price is steady, at 10s. to 11s. per ton. To-day's quotations are:—Best Northumbrian steam, 8s. 3d. to 8s. 6d. per ton; second qualities, 7s. 3d. to 7s. 6d. per ton; small steam, 4s. per ton; bunker coals (unscreened), 6s. to 7s. per ton; gas coals, firm, 6s. 6d. to 7s. per ton; coke in good demand, 14s. 6d. to 15s. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The present tendency of the prices of oils manufactured here is to decline. Linseed oil has maintained a firm position for rather a long period, much to the advantage of forward buyers. The import this week of linseed has been 44,156 qrs., viz, from St. Petersburg, 13,010 qrs.; Riga, 11,847 qrs.; Libau, 5,950 qrs.; Kertch, 5,400 qrs.; Odessa, 4,299 qrs.; and Novorossisk, 3,650 qrs.; making a total for the year of 573,774 qrs., against same time a year ago, 544,183 qrs. Linseed oil on the spot being about 5s. per ton lower, closing dull at 19s. 4½d. naked; November-December, 19s. 3d.; for more distant deliveries the market has been very steady, January-April still worth 19s.; and May-August, 18s. 9d. Boiled and refined from £1. to £1. 10s. per ton, extra. The export for the week has been 700 cwt. During the week the import of cotton seed has been 7,413 tons from Alexandria, making a total for the year of 128,308 tons, against the same time a year ago of 115,976 tons. Refined cotton oil dull with sellers at 15s. 4½d. naked spot, December-April, 15s. 10½d.; crude on the spot, 14s.; casks, 17s. 6d.; and ordinary barrels 3 s. per ton extra. The export of refined oil for the week has been 4,620 cwt. Spirits of turpentine, 20s. 9d. per cwt. Castor oil shows every prospect of an advance; first pressure, 2½d. per lb. Cod oil from £17 to £19. per ton. Olive oil from £32. to £35. per ton. Boiled siccative oil, £13. per ton. Herring oil £14. per ton. Liquid soap, £16 per ton. New wool carding oil £14 10s. per ton.

CAKES.—Linsed cakes firm, 95% pure, £6. 5s. to £6. 7s. 6d. per ton. Oil cakes, from £5. 5s. to £5. 7s. 6d. Russians, £5 12s. 6d. to £5 17s. 6d. Cotton cakes somewhat firmer tone, good demand; best makes, £4 to £4. 2s. 6d. Rape cakes, Black Sea, £2. 5s. to £2. 7s. 6d.; feeding, £3. 17s. 6d. per ton.

PAINTS.—In the paint and kindred trades the situation is unchanged. Black, blue, yellow and yellow ochre paints from £11. per ton. Paint remover, 25s. per cwt. Red and white leads unchanged. Yellow locomotive grease, £10. per ton. Wagon grease, £6 Imperial black varnish, £5. 10s. Dry colours unchanged.

New Company.

West African Oil Syndicate, Ltd.—CAPITAL £40,000., in £1. shares. This company has been formed to acquire and develop certain concessions dealing with the Gold Coast Colony. The subscribers to the memorandum of association are:—F. C. Stoop, 4, Hercules Passage, E.C., stockbroker; F. G. Goudsmit, 4, Hercules Passage, E.C., stockbroker; C. F. Stoop, 4, Hercules Passage, E.C., stockbroker; G. van Gulik, 4, Hercules Passage, E.C., gent.; F. W. Lidstone, 4, Hercules Passage, E.C., gent.; L. C. Parish, 4, Hercules Passage, E.C., gent.; A. Kahn, 4, Hercules Passage, E.C., gent.

Gazette Notices.

PARTNERSHIP DISSOLVED.

D. S. HAYNES and W. J. BARNARD, under the style of Haynes and Barnard, Blackheath-hill, S.E., wholesale and manufacturing chemists, &c.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

CASSELL, F. A. (trading as Fred. A. Cassell and Co., and now or formerly trading also as the Arabian Oil Company), Arabian Wharf, Blackhorse-road, Deptford, S.E., tallow distiller and chemical manufacturer.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

ending November 2nd.

Acid—

150 pks. Beresford & Co.
30 Hernu, Peron & Co.

Acetone—

Holland, 1 pk.

Alum—

Belgium, 23 pks.

A. & M.

Zimmermann

T. H. Lee

R. W. Greeff & Co.

Anthracene—

Holland, 166 pks. Burt, Boulton & Co.

Antimony Ore—

Portugal, 50 t.
Italy, 50

J. Bamber

Arsenic—

France, 20 pks.
Germany, 20

T. H. Lee

Asbestos—

France, £72
Germany, 12

Girard Frs. & Co.

T. H. Lee

France, 15	Bennett S. S. Co.	Canaries, 17	Swanston & Co.	Guano —	Holland, 90	Phillips & Gowers
Italy, 150	Pickford & Co.	" 5	W. M. Smith & Sons	Halifax Is. 410 t.	" 920	Vokins & Co.
" 155	Brit. Asbestos Co.	" 4	Sperling & Williams	Lead Acetate —	Belgium, 76	F. Claydon & Co.
" 16	Imperial Asbestos Co.	Cutch		Germany, 29 pks.	" 160	Sawer, Sons & Co.
Canada, 240	W. Byford	Singapore, 27 pks.	R. & J. Henderson	" 14	" 146	Leach & Co.
" 500	J. Owen	Rangoon, 100	Leach & Co.	Lead Nitrate —	" 160	Fellows, Morton, & Co.
France, 20	Flageollet & Co.	" 290	A. Howden & Co.	Germany, 39 pkgs.	" 200	Arnati & Harlan
Holland, 80	Van Geelkerken & Co.	France, 19	Bennett S. S. Co.	" 39 pkgs.	Holland, 2,300	Little & Johnston
Barytes —		Rangoon, 150	Lewis & Peat	Litharge —	U. States, 200	L. Sater & Co.
Holland, 24 cks.	J. L. Lyon & Co.	Divi Divi		Germany, 8 cks.	Stearine —	
Belgium, 215	W. Harrison & Co.	E. Indies, 16 pks.	Brown & Elmslie	" 8 cks.	France, 21 sks.	T. Trapp & Son
Holland, 50	W. G. Taylor & Co.	Extracts		" 8 cks.	" 90 bgs.	G. Blor & Co.
Boracic Acid —		France, 85 pks.	B. & F. Wf. Co.	Magnesium Sulphate —	Belgium, 316	4 cks. H. Hill & Son
Italy, 24 pks.	J. E. Malder	Denmark, 25	J. Forsey	Germany, 126 cks.	" 63	Beresford & Co.
" 40	B. & F. Wf. Co.	Germany, 200	T. H. Lee	" 150	France, 50	H. Hill & Son
Bromine —		U. States, 100	W. Burton & Sons	Manganese —		
Germany, 30 pks.	A. & M. Zimmermann	France, 20	Beresford & Co.	Germany, 80 c.	Italy, 5 t.	Harris, Scarfe, & Co.
Camphor —		Denmark, 2	M. D. Co.	Manure —	France, 440	G. G. Blackwell, Son, & Co.
China, 240 pks.	Hale & Son	France, 50	L. J. Levinstein & Sons	E. Indies, 500 t.	Tar —	
Japan, 68		Gambier		Queensland, 50	Germany, 43 brls.	C. S. Lovell
Germany, 102	H. A. Litchfield	Singapore, 2,130 pkgs.	R. & J. Henderson	" 50	N. Russia, 200	Elkan & Co.
" 105	Lewis & Peat	Indigo		Queensland, 1	" 3,000	W. F. Malcolm & Co.
Japan, 345	R. Warner & Co.	E. Indies, 4 cts.	Croysdale & Co.	E. Indies, 100	Tartars —	
Caoutchouc —		" 122	L. & I. D. Jt. Co.	Germany, 21	Germany, 15 pks.	Beresford & Co.
M'dagasc'r, 157 c.	Procter Bros.	" 74	P. Macfadyen & Co.	Brishane, 50	Portugal, 12	J. Lucy & Son
" 2	Brookes & Green	" 11	H. Johnson & Sons	" 50	Tartaric Acid —	
France, 48	H. Johnson & Sons	" 7	R. von Glehn & Sons	E. Indies, £135	Italy, 12 pks.	B. & F. Wf. Co.
M'dagasc'r, 289	Hammond & Co.	" 10	J. Owen	" 76	Holland, 24	Kirkpatrick & Co.
" 15	Kleinwort Sons	" 5	Blyth, Greene & Co.	Canada, 215	France, 3	H. & F. Wf. Co.
Aden, 16	Clarke & Smith	" 47	Walker, Munzie & Co.	E. Indies, 200	Turpentine —	
Madagasc'r, 53	L. & I. D. Jt. Co.	Germany, 1 sm.	T. H. Lee	Ochre —	U. States, 1,896 brls.	Prod. Brokers' Co.
Penang, 42	E. Boustead & Co.	E. Indies, 8 cts.	Laughland, Mackay & Co.	Holland, 6 cts.	N. Russia, 52	Deutschmann & Co.
Castor Oil —		Myrabolams		France, 41 cks.	" 25	Dussak Bros. & Co.
Italy, 12 cs.	Beck & Pollitzer	E. Indies, 683 pks.	L. & I. D. Jt. Co.	" 49	U. States, 8,688	Nickoll & Knight
Ceylon, 25 pps.	Mordaunt	" 330	Culverwell, Brooks & Co.	Spain, 8	N. Russia, 52	F. & S. Chisman & Co.
E. Indies, 157 pks.	Cayser, Irvine & Co.	Saffron		Holland, 24 pks.	Ultramarine —	
Italy, 10	Fellows, Morton, & Co., Ld.	Spain, 1 pk.	C. Brumlen & Son	Oxalic Acid —	Holland, 6 pks.	Herna, Fern, & Co.
E. Indies, 93 cks.	Ross & Deering	Tanner's Bark		Holland, 24 pks.	" 26	Haefner, Hilpert, & Co.
Italy, 10	Baiss Bros. & Co.	Germany, 45 t.	Devitt & Hett	Pitch —	" 1 cs.	G. Rahn & Co.
" 4	A. & M. Zimmermann	U. States, 13	Leach & Co.	Germany, 37 brls.	Belgium, 1 cs.	Leach & Co.
" 10	May, Roberts & Co.	Belgium, 25	Sawer, Sons & Co.	Plumbago —	" 20	H. Kohmann
Belgium, 133 brls.	Leach & Co.	Melbourne, 59	Dyster, Nalder & Co.	Ceylon, 150 brls.	Holland, 40	Thames S. T. & L. Co., Ld.
Italy, 5	Meyer, Spaul & Co.	Turmeric		" 80 bgs.	Belgium, 4	W. Harrison & Co.
Caustic Soda —		E. Indies, 392 pks.	L. & I. D. Jt. Co.	Germany, 142 cks.	White Lead —	
Holland, 12 c.	J. Barber & Co.	" 160	Union L. Co.	" 10	Germany, 38 cks.	D. Storer & Son
Chemicals (otherwise undescribed)		Valonia		Canada, 43 c.	" 25	W. A. Rose & Co.
Germany, 45	7 cs. L. & I. D. Jt. Co.	A. Turkey, 178 t.	A. & W. Nesbitt	Belgium, 40 c.	Holland, 3	Rogers, Jackson, & Co.
" 12	40 pks. T. H. Lee	" 6 c.	Protopazzi Bros.	Potash —	Belgium, 10	J. L. Lyon & Co.
Holland, 17	Tingle, Jacobs & Co.	Dyestuffs (otherwise undescribed)		Germany, 102 pks.	Germany, 10	J. Barber & Co.
Holland, 48	J. Barber & Co.	Farina —		Potassium Carbonate —	Wood Pulp —	
Germany, 10 cs.	A. & M. Zimmermann	Holland, 50 pks.	H. Lorenz	Germany, 102 pks.	Sweden, 160 pks.	Henderson, Craig, & Co.
U. States, 6	R. Thompson	Germany, 342	Johnson Saccharum	Potassium Chloride —	Holland, 88	H. C. Everett
Germany, 7	Craven & Co.	Holland, 50	J. Knill & Co.	Germany, 40 c.	Germany, 50	Christopherson, Andersen, & Co.
" 7	Becker & Ulrich	France, 6	Hernu, Peron & Co.	Potassium Cyanide —	Sweden, 100	Moerion Cox Br.
Holland, 10	G. Rahn & Co.	Holland, 50	R. G. Hall & Co.	Holland, 40 cs.	Norway, 1,960	E. J. & W. Goldsmith
Germany, 6	Domeier & Co.	" 150	J. Barber & Co.	Potassium Hydrate —	Germany, 708	W. Friedlaender
" 6	Boake, Roberts & Co.	" 100	Ohlenschlager Bros.	France, 4 pks.	Sweden, 1,813	E. J. & W. Goldsmith
Belgium, 27 pks.	T. Palmer	French Chalk —		Germany, 4 pks.	Holland, 1,111	Henderson, Craig, & Co.
Cobalt Ore —		Italy, 425	W. Harrison	Potassium Oxalate —	Norway, 20	
Holland, 20 pks.	H. Wallace & Co.	Gamboge —		Holland, 40 pks.	Zinc Oxide —	
Castor Oil —		Singapore, 23 pks.	L. & I. D. Jt. Co.	Potassium Oxymuriate —	Holland, 50 pks.	Pippen, Dwyer & Co.
Sydney, 84 t.	A. Frey & Co.	Glucose —		Norway, 20 pks.	Germany, 40 cks.	Beresford & Co.
Copper Sulphate —		Germany, 25 pks.	200 c. Bennett S. S. Co.	Holland, 10 pkgs.	Holland, 150	25 brls. M. Ashby, Ld.
Germany, 20 cks.	B. & F. Wf. Co.	" 200	200 c. Trier, Meyer & Co.	Pyridine Bases —	" 10	Fellows, Morton, & Co.
Cream of Tartar —		U. States, 150	250 L. & I. D. Jt. Co.	Germany, 14 pks.	Pyrites —	
Spain, 5 pks.	F. C. Devon & Co.	" 250	250 G. Hedges & Son	Spain, 1,039 t.	Anderson, Anderson, & Co.	
France, 48	B. & F. Wf. Co.	" 50	282 J. Keiller & Son	Quicksilver —		
" 10	F. C. Devon & Co.	" 400	400 E. Dixon & Barrett	Italy, 7,500 lbs.	H. Bath & Son	
" 10	M. Ashby, Ld.	France, 200	200 Tagant & Co.	N. Russia, 308 brls.	L. & I. D. Jt. Co.	
" 10	W. C. Bacon & Co.	Holland, 27	80 J. Owen	U. States, 1,298 brls.	F. & S. Chisman & Co.	
Holland, 24	Kirkpatrick & Co.	France, 200	200 A. J. Smith	" 1,542	Prod. Brokers' Co.	
" 4	J. Burnett & Sons	U. States, 100	600 Deering & Robottom	Saltpetre —		
Dextrine —		" 50	300 L. Norman & Co., Ld.	Germany, 13 cks.	L. & I. D. Jt. Co.	
Germany, 50 pks.	Beck & Pollitzer	" 250	1,330 T. M. Duche & Sons	" 50	J. Hall & Son	
" 45	Pronk, Davis & Co.	" 500	500 Cole & Carey	" 114	P. Hecker & Co.	
Holland, 50	G. Boor & Co.	" 50	275 Ohlenschlager	Singapore, 1,177 bgs.	Lucas & Spencer's Wf.	
Dyestuffs —		" 749	1,913 L. Suto & Co.	Soapstone —		
Annatto		" 7,098	7,499 R. G. Hall & Co.	Sydney, 400	L. & I. D. Jt. Co.	
Denmark, 7 pks.	Fullwood & Bland	" 50	300 Page, Son & East	Soda Crystals —		
Cochineal		" 50	284 J. T. Morton	Germany, 200 cs.	H. Lambert	
Canaries, 9 pks.	Kuhner, Henderson & Co.	Germany, 13	103 M. D. Co.	Sodium Sulphate —		
" 40	G. S. Bruce	U. States, 250	250 J. Newcamb	Belgium, 5 pks.	R. W. Greeff & Co.	
" 18	W. M. Smith & Sons	Glue —		Starch —		
Teneriffe, 17	J. W. Borland	" £1,354		Germany, 1,000 pks.	Horne & Co.	
				Belgium, 81	T. H. Lee	

e of Lime—
agasta, 2,698 bgs.
Oil—
erp, 114 brls.
of Tartar—
lona, 10 cks. Sachse & Klemm
ine—
n, 147 bgs.
175 J. Buntin & Co.
uffs—
ols, 46 cks. German Bank of London
chineal
Palmas, 38 bgs.
rifle, 6 K. Henderson & Co.
26 Brown, Shipley & Co.
ch
oon, 1,729 bxs.
i Divi, 2 bgs.
burg, 75 brls. 280 bxs.
fracts, 10 W. Bingham
delphia, 300 Oak Extract Co.,
York, Co-op. W'sale
6, Society, Ld.
n, 250 cks.
L. 49
more, 30 brls. R. Schlosser & Co.
25
atic
more, 4,796 ps. D. Midgley & Sons
agena 370 Leech, Harrison & Co.
500
lgo
a, 39 bxs. Royal Niger Co.
rabolams
ay, 3,038 bgs.
hella, 1 pkge. Brown, Geveke & Co.
rdam,
mac
aux, 63 bls.
meric, 250 bgs.
tta, 50 bgs.
e, 200 bgs.
e, N. W. Jackson
ie—
York, 349 brls.
60 bgs. Co-op.
W'sale Society, Ld.
more, 150
n, 500 F. W. Lincud & Son
40 bgs.
zaire, 30 cks.
30 cs. 6 Co-op.
W'sale Society, Ld.
rdam, 1 ble.
Acid—
n, 5 bls. 10 kgs. J. Taylor & Co.
al White—
n, 100 bgs.
100 cks. Co-op.
W'sale Society, Ld.
Acid—
rdam, 5 cks.
n, 5 cs. S. Brakewich & Co.
In Scale—
elphia, 109 brls.
ore, 200
In Wax—
oon, 737 bxs.
hates—
n, 1,000 bgs.
rdam, 54 cks.
York, 7 brls. A. Esilman
42 cks. Co-op.
W'sale Society, Ld.
eal, 51
rk, 5 dms.
e Stone—
liffe, 1,569 bgs.
s—
a, 1,125 l.

Resin—
Boston, 500 brls.
Saltpetre—
Hamburg, 4 cks. 7 brls.
Soap—
Bari, 192 cs.
Naples, 37
Boston, 2 cs. J. Thompson
Soapstone—
Philadelphia, 100 bgs.
Genoa, 400 G. Huntriss & Co.
Bordeaux, 420 G. G. Blackwell, Sons & Co.
Soda—
Dunkirk, 21 dms.
Sodium Nitrate—
Iquique, 16,148 bgs.
Starch—
Baltimore, 134 bgs. 1,200 sks.
Hamburg, 284 cs.
Rotterdam, 87
Stearine—
Rotterdam, 7 cs.
Tallow—
B. Ayres, 200 pps. London Brazil Bk., Ld.
Rotterdam, 1 pcl.
Tartar—
Bordeaux, 9 cks.
Oporto, 3 Bane Brs.
Tartaric Acid—
Bari, 14 brls.
Treacle—
Bordeaux, 3 cs.
Turpentine—
Trieste, 2 brls. Evans, Sons & Co.
Verdigris—
Bordeaux, 1 ck.
White Lead—
Rotterdam, 112 cks.
Dunkirk, 16
Wood Pulp—
Christiania, 2,480 bls.
Holmstrand, 2,000
Drammen, 545
Skien, 288
Montreal, 375 bolls. A. Rice & Co.
Rotterdam, 195
Gothenburg, 170
Zinc Oxide—
Rotterdam, 100 cks.
Zinc Skimmings—
Philadelphia, 72 pkgs.
New York, 4 cks.

MANCHESTER.

Week ending November 2nd.

Acetic Acid—
Antwerp, 40 blns.
Albumen—
Ghent, 13 cs.
Colours—
Antwerp, 3 cks. J. T. Fletcher & Co.
Rotterdam, 15 40 cs. 12 bxs.
Hamburg, 121 brls.
Paris, 7
Stettin, 40 Stott, Coker, & Co.
Dextrine—
Stettin, 100 bgs. Stott, Coker, & Co.
100
Dyestuffs—
Alizarine
Rotterdam, 98 cks. 1 cs.
Farina—
Hamburg, 50 bgs.
Stettin, 2,916 Browne, Geveke & Co.
French Chalk—
Paris, 1 ck.
Glucose—
Stettin, 200 bgs. Stott, Coker, & Co.
Glue—
Antwerp, 20 bls.
Rouen, 7 cs. 1 bg. 44 cks. 33 brls.
Rotterdam, 20
Stettin, 20
Limestone—
Antwerp, 5 crls.

Naphtha—
Hamburg, 13 dms.
Pitch—
Hamburg, 60 cks.
Potash—
Hamburg, 40 cks.
Potassium Chloride—
Bordeaux, 26 cks. J. & P. Hutchinson
Soap—
Rotterdam, 3 cs.
Soda Crystals—
Rouen, 10 cks.
Sodium Nitrate—
Rotterdam, 35 cks.
Starch—
Ghent, 20 cs.
Antwerp, 10
Rotterdam, 220
Stearine—
Antwerp, 6 bgs.
Tartar—
Hamburg, 10 cks.
Bordeaux, 1 J. & P. Hutchison
Waste Salt—
Hamburg, qty.
Wood Pulp—
Antwerp, 57 bls.
Hamburg, 53
Zinc Ashes—
Stettin, 30 cks.

HULL.

Week ending November 2nd.

Acetic Acid—
Rotterdam, 20 blns. Hutchinson & Son
Barytes—
Rotterdam, 23 cks. Hutchinson & Son
Bone Meal—
Kurachee, 2,500 bgs.
Chemicals (otherwise undescribed)
Bremen, 1 kg. 3 cks. 2 cs. Veltmann & Co.
Rotterdam, 1 brl. Hutchinson & Son
Hamburg, 4 cs. Wilson, Sons, & Co., Ld.
Dunkirk, 45 pks.
Antwerp, 31
Cod Oil—
Hamburg, 10 brls. Wilson, Sons, & Co., Ld.
Bergen, 89
Colours—
Ghent, 15 cks. Wilson, Sons, & Co., Ld.
Antwerp, 1 Bailey & Leatham
13 pks. Wilson, Sons, & Co., Ld.
Hamburg, 7 cs. 2 cks. G. Malcolm & Son
Rotterdam, 6 346 pks. W. & C. L. Ringrose
17 Hutchinson & Son
Cryolite—
Copenhagen, 2 cks. Wilson, Sons, & Co., Ld.
Dextrine—
Stettin, 160 bgs. Wilson, Sons, & Co., Ld.
Dyestuffs—
Alizarine
Rotterdam, 94 pks. 10 cks. W. & C. L. Ringrose
Kurachee, 103 cs. Wilson, Sons, & Co., Ld.
Myrabolams
Bombay, 8,068 bgs.
Valonia
Smyrna, 4 bgs.
Farina—
Harlingen, 200 bgs.
Stettin, 350 Wilson, Sons, & Co., Ld.
Ghent, 260 cs. "
Amsterdam, 50 "
Flux Skimmings—
Gothenburg, 41 cks. Wilson, Sons, & Co., Ld.
Glucose—
Stettin, 200 bgs. Wilson, Sons, & Co., Ld.
New York, 100 brls. "

Glue—
Bremen, 100 bgs. Veltmann & Co.
Dunkirk, 64 cks. 19 bls. Wilson, Sons, & Co., Ld.
Antwerp, 1
Bergen, 6 brls. "
Rotterdam, 2 cs. W. & C. L. Ringrose
Paint—
Christiania, 1 cs. Wilson, Sons, & Co., Ld.
New York, 6 "
Phosphate—
Ghent, 81 t. Wilson, Sons, & Co., Ld.
Antwerp, 1,000 bgs. "
Pitch—
Rotterdam, 51 cks. W. & C. L. Ringrose
Hamburg, 13 brls. H. F. Pudsey
Amsterdam, 26 cks. W. & C. L. Ringrose
Saltpetre—
Hamburg, 5 cks. Lofthouse & Saltmer
"
Soap—
Rotterdam, 3 cs. W. & C. L. Ringrose
Starch—
Bremen, 1,778 cs. Veltmann & Co.
Amsterdam, 160 J. Good & Sons
Stearine—
Antwerp, 1 ck. Bailey & Leatham
14 bgs. Wilson, Sons, & Co., Ld.
Tallow—
Harlingen, 2 cks.
Tartar—
Bordeaux, 7 cks. Rawson & Robinson
Hamburg, 3 Bailey & Leatham
Tartaric Acid—
Bordeaux, 12 cks.
Rotterdam, 8 Hutchinson & Son
Treacle—
New York, 949 brls. Wilson, Sons, & Co., Ld.
Ultramarine—
Bremen, 8 cks. Sissons Brs. & Co.
Varnish—
Bremen, 58 tins R. B. A. Kirkby & Son
New York, 5 brls. 9 pks. Wilson, Sons, & Co., Ld.
White Lead—
Antwerp, 50 cks. Bailey & Leatham
Amsterdam, 12 J. Good & Sons

GLASGOW.

Week ending November 7th.

Acetate of Lime—
New York, 2,749 sks.
Acid—
Rotterdam, 1 ck. J. Rankine & Son
Alkali—
Rotterdam, 34 dms. J. Rankine & Son
Arachide Oil—
Rotterdam, 11 cks. J. Rankine & Son
Barium Chloride—
Rotterdam, 4 cks. J. Rankine & Son
Barium Sulphate—
Antwerp, 50 bgs.
Boracic Acid—
Leghorn, 22 cks.
Carbon Black—
New York, 1 kg.
Castor Oil—
Leghorn, 31 cs.
Chemicals (otherwise undescribed)
Lisbon, 2 cs.
Colours—
Rotterdam, 36 cks. 12 cs. J. Rankine & Son
Hamburg, 73 pkgs.
Dextrine—
Antwerp, 1 bx.

Dyestuffs—		
Alizarine	116 cks. 1 bx.	J. Rankine & Son
Rotterdam	144 pkgs.	
Argols		
Bordeaux	92 cks. 96 bgs.	
Extracts		
New York	70 lbs.	
Genoa	53 brls.	
Lisbon	69 cs.	
Nantes	250 cks.	
Indigo		
Rotterdam	14 chta.	J. Rankine & Son
Madder		
Rotterdam	5 cks.	J. Rankine & Son
Sumac		
Palermo	1,000 bgs.	
Farina—		
Delfsryhl.	2,310 bgs.	
French Chalk—		
Leghorn	5 cs.	
Glue—		
Rotterdam	4 cks. 16 bgs.	J. Rankine & Son
Boston	15 brls.	
Guano—		
Drontheim	141 bgs.	
Infusorial Earth—		
Hamburg	75 bgs.	
Kelp—		
Christiansund	133 t.	
Paint—		
New York	1 bx.	
Potash—		
Rotterdam	35 cks.	J. Rankine & Son
Pumice Stone—		
Leghorn	10 bgs.	
Pyrites—		
Huelva	1,766 L.	Tharais Co.
Rosin—		
New York	500 brls.	
Soap—		
Rotterdam	1 cs. J. Rankine & Son	
Boston	2 pkgs.	
Starch—		
Rotterdam	10 cs.	J. Rankine & Son
Stearine—		
Amsterdam	61 bgs.	

Tartar—		
Bordeaux	30 cks.	
Tin Oxide—		
Rotterdam	2 cks.	J. Rankine & Son
Treacle—		
Boston	300 brls.	
Yarnish—		
New York	5 brls. 2 hf.-brls. 1 bx.	
Waste Salt—		
Hamburg	1,211 bgs.	
White Lead—		
Antwerp	10 cks.	
Rotterdam	57	J. Rankine & Son
Wood Pulp—		
Drontheim	200 bls.	
Christiana	1,435	
Zinc Oxide—		
Antwerp	40 cks.	
New York	50 brls.	
Zinc Sulphate—		
Rotterdam	5 brls.	J. Rankine & Son
Zinc White—		
Rotterdam	60 cks.	J. Rankine & Son

TYNE.

Week ending November 2nd.

Barium—		
Rotterdam	301 bgs.	Tyne S. S. Co.
Barytes—		
Rotterdam	210 bgs.	Tyne S. S. Co.
Colours—		
Rotterdam	1 brl.	Tyne S. S. Co.
Glucose—		
New York	375 brls.	Furness, Withy, & Co.
Potash—		
Montreal	6 brls.	
Pyrites—		
Huelva	1,013 t.	Scott Bros.
Rosin—		
New York	636 brls.	Furness, Withy, & Co.
Soap—		
Rotterdam	16 cs.	Tyne S. S. Co.
Starch—		
Amsterdam	75 cs.	W. W. Wanston

Stearine—		
Antwerp	6 bgs.	Tyne S. S. Co.
New York	25 pkgs.	Furness, Withy, & Co.
Superphosphate—		
Antwerp	200 bgs.	Tyne S. S. Co.
Wood Pulp—		
Christiana	1,040 bis.	
Gothenburg	34	

GOOLE.

Week ending October 30th.

Acetic Acid—		
Rotterdam	4 cks.	
Alkali—		
Calais	19 cks.	
Alum—		
Rotterdam	100 bgs.	
Antimony—		
Boulogne	1 ck.	
Barytes—		
Rotterdam	9 cks.	
Caoutchouc—		
Boulogne	6 pkgs.	
Chemicals (otherwise undescribed)		
Hamburg	12 cks.	
Colours—		
Hamburg	67 cks.	24 cs.
Ghent	9	1
Dyestuffs—		
Alizarine	50 cks.	
Rotterdam		
Indigo	10 chta.	
Rotterdam		
Madder	2 cks.	1 ck.
Rotterdam		
Dyestuffs (otherwise undescribed)		
Rotterdam	43 cks.	10 cs.
Boulogne	4	33 pkgs.
Farina—		
Hamburg	750 bgs.	
Delfsryhl.	1,200	
Antwerp	3	
Glucose—		
Hamburg	68 cks.	
Calais	100 bgs.	
Glue—		
Rotterdam	2 bgs.	

Lead Acetate—		
Hamburg	9 cks.	
Phosphate—		
Ghent	100 L.	
Plumbago—		
Boulogne	1 ck. 1 cs.	
Potash—		
Rotterdam	13 cks.	
Calais	23 dms.	
Dunkirk	50	
Saltpetre—		
Rotterdam	105 bgs.	
Hamburg	18 cks.	
Soap—		
Boulogne	1 ck.	
Sodium Silicate—		
Rotterdam	1 ck.	
Starch—		
Rotterdam	120 cs.	
Ghent	3 cks.	
Yarnish—		
Boulogne	10 cks.	
Waste Salt—		
Hamburg	601 cks. 500 bgs.	
Wood Pulp—		
Hamburg	55 bls.	

GRIMSBY.

Week ending November 2nd.

Barytes—		
Hamburg	5 cks.	
Caoutchouc—		
Hamburg	3 cs.	
Colours—		
Antwerp	35 cks.	21 pkgs.
Hamburg	14	24 cs. 72
Dyes—		
Antwerp	24 cks.	747 pkgs.
Dyestuffs (otherwise undescribed)		
Dieppe	8 cks.	
Pitch—		
Dieppe	10 cks.	
Soap—		
Hamburg	1 cs.	
Starch—		
Antwerp	152 cs.	
Wood Pulp—		
Malmo	200 bls.	
Gothenburg	33	

EXPORTS OF CHEMICAL PRODUCTS

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending November 6th.

Alkali—		
Napier	5 L. 6 C.	£46
Rio de Janeiro	14 7	60
Suva	1 5	19
Alum—		
Salonica	10 L.	£57
Ammonia—		
Cape Town	8 cs.	£10
Brisbane	8 C.	35
Ammonium Carbonate—		
New York	100 pkgs.	£350
Adelaide	5 C.	13
St. Petersburg	20 cks.	165
Varna	6	11
Ammonium Chloride—		
Melbourne	6 C.	£31
Salonica	1 L. 4	40
Constantinople	20 brls.	75
Ammonium Phosphate—		
Wellington	6 C.	£27
Ammonium Sulphate—		
Ostend	30 L.	£270
Rotterdam	30	720
Mauritius	75 17 6.	730
Jersey	30	315
Amsterdam	47 6	432
Arsenic—		
Melbourne	1 L.	£23
Adelaide	1 2 C.	47
Yokohama	2	32
Barium Nitrate—		
New York	35 pkgs.	£53
Borax—		
Adelaide	2 L. 5 C.	£75

Cape Town	2	45
Caustic Potash—		
Adelaide	1 t. 7 C.	£95
Caustic Soda—		
Melbourne	12 C.	£13
Sydney	2	7
Normanton	4	8
Hong Kong	7	11
Wanganui	5 L. 2	38
Philadelphia	14 10	122
Natal	1 7	70
Delagoa Bay	12	12
Townsville	10	15
Chemicals (otherwise undescribed)		
B. Ayres	5 C.	£30
Rosario	5 L. 1	34
Melbourne	5	260
Rotterdam	3	40
Christiana	1 2	58
Adelaide	2	10 kgs. 32
Barbadoes	14 cs.	14 brls. 57
Sydney	5 3 10	132
Brisbane	6	12
Citric Acid—		
Melbourne	10 L.	£70
Copenhagen	1 kg.	9
Philadelphia	1	135
Sydney	1	126
St. Petersburg	5 5 C.	736
Coal Products—		
Alizarine	20 cks.	£283
Montreal	6 runs.	£60
Anthracene		
Dusseldorf	220 cks.	£1,312
Benzol		
Rotterdam	102 cks. 11 drs.	£560

Carbolic Acid		
Dusseldorf	40 cks.	£321
Otago	30 drs.	30
New York	25	149
Creosote		
New York	400 cks. 500 brls.	£395
Naphthaline		
Rotterdam	59 bgs.	£12
Hamburg	6 cks.	56
Pitch		
New York	372 cks.	£208
Tar		
St. Petersburg	2,099 brls.	£1,280
Gothenburg	400 cks.	312
Tar and Pitch		
Melbourne	25 brls.	£18
Coal Products (otherwise undescribed)		
Brisbane	200 drs.	£47
Copper Sulphate—		
Hamburg	5 L. 8 C.	£86
Wellington	1	17
Copperas—		
Adelaide	10 L. 15 C.	£19
Cream of Tartar—		
Mackay	10 C.	£48
Cooktown	4	21
Adelaide	5 L.	447
Melbourne	1	90
Sydney	2 30 cks.	317
Disinfectants—		
Brisbane	10 cs.	£25
Alexandria	30 drs.	60
Sydney	55 19 C.	137
Guano—		
Bordeaux	22 L.	£220
Hydrochloric Acid—		
Yokohama	10 C.	£11

Hypophosphite of Lime—		
New York	10 cs.	
Lead Acetate—		
Otago	1 L.	
Magnesia—		
Sydney	10 L.	
Manures—		
Mauritius	20 L. 6 C.	
Jersey	67	
Algoa Bay	5 10	
Orotava	5 10	
Delagoa Bay	2	
Nitric Acid—		
Brisbane	7 cs.	
Potashes—		
Adelaide	11 C.	
Sydney	2 tanks	
Potassium Chlorate—		
Philadelphia	10 L.	
Potassium Cyanide—		
Delagoa Bay	20 cs.	
Potassium Hypophosphite—		
New York	2 cs.	
Saltpetre—		
M. Video	3 L. 9 C.	
Rio de Janeiro	5 19	
Sydney	6	
Salts of Lime and Soda—		
New York	10 cks. 2 cs.	
Sheep Dip—		
Invercargill	75 cs.	
Sydney	37 L. 10 C.	
Wellington	10 14	
Timaru	50	

ruz,	16 cks.	gr	276
ian,	17	8 drs gr	304
so,	15 l.	4 c.	900
s,	16	6	620
Bay,	5		275
e,		12 drs.	12
	5 l.	16 c.	£12
ystals—			
tle,	7 l.	10 c.	£20
	107	4	234
Bicarbonate—			
e,	2 t.		£15
d,	5		35
i,	1		8
am Carbonate—			
rk,	10 kgs.		£17
am Nitrate—			
rk,	63 pks.		£123
	1 t.	1 c.	£18
ic Acid—			
	7 cs.		£11
c Acid—			
	2 c.		£12
	1 t.	10	186
	1	50 cks.	427
rsburg,	18		110

VERPOOL.

ending November 6th.

n—	4 t.		£47
er,	15 cks.		
	1 t.	1 c.	3 q.
al,	14	11	74
	1	2	5
	2	1	10
iso,	7	9	7
	7	1	20
	1	5	2
retta,	2	10	13
	5	5	27
	1	5	1
ake—			
me,	5 t.		£13
a Sulphate—			
	6 c.		—
pus Cake—			
	10 l.	3 c.	£27
a (Liquid)—			
	2 c.	3 q.	£42
um Carbonate—			
	10 c.		£17
a,	1 t.	1	31
	1	2 q.	34
urg,	10		18
	9		14
	1	5	43
so,	10		18
um Chloride—			
	1 t.		£28
	3 c.	1 q.	6
	3		5
m, 1 ck.			10
	3		5
m,	3		108
	15		28
	1	19	72
	10		21
	8		15
	6	9	151
	1	9	35
	2	2	73
hia,	27	11	769
	3	15	134
am Sulphate—			
	100 t.		£500
ia,	24	1 c.	3 q.
	22	18	215
	5	4	46
	90	16	790
News,	51	1	470
	20	10	140
y,	5		48
	20	8	193
	5 cks.		
	3 cs.		
	1		
Powder—			
	3 cks.		

Baltimore,	99
Boston,	529
B Ayres,	100
Calcutta,	
Corfu,	15
Dunkirk,	17
Genoa,	18
Malaga,	8
Montreal,	117
Naples,	70
Newport News,	255
New York,	237
Oporto,	15
Passages,	15
Riga,	50 kgs.
Rouen,	47
Tarragona,	10
Valparaiso,	6
Venice,	47
Vera Cruz,	12

Boracic Acid—

Montreal,	1 t.	3 c.	3 q.	£37
Hamburg,	5	6	3	160
Antwerp,		8		15
Brisbane,		15		23
Melbourne,	6	6		190

Borax—

M. Video,	5 t.	5 c.	3 q.	£108
Sydney,	1			20
Stettin,	14	15	2	295
Santander,		18		20
Piræus,		11		12
Brisbane,		10		11
Antwerp,	3			65
Ibrail,		10		10
Hamburg,	36	18	2	738
Montreal,	10	7		203
B. Ayres,		12		16
Tampico,	1	1		22
Rotterdam,	31	12	1	619
Durban,		11		31

Calcium—

Malta,	3 t.	6 c.		£8
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Caoutchouc—

Valparaiso,	1 cs.			
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Carbolic Acid—

Alexandria,	2 t.	14 c.	1 q.	£23
Leghorn,	6			100
Rosario,		5		19
Santos,		10		23
Rio de Janeiro,	1	8		25
Rouen,	5		1	245
Baltimore,		1		316
Newport News,	2			62
Hamburg,	7	17		428

Castor Oil—

Natal, Brl.,	8 cs.			
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Caustic Potash—

Sydney,	1 t.	4 c.		£44
Brisbane,		12		14
Melbourne,	1	9		42
San Francisco,	1	19		66

Caustic Soda—

Alexandria,	87 dms.			
Algoa Bay,			3 bxs.	
Alicante,	50			
Amsterdam,	20			
Antwerp,	42		26 brls.	
Baltimore,	190			
Barcelona,	145		60 cks.	
Batavia,	25			
Boston,	315		100	
Hougas,	13			
Brisbane,	128			
B. Ayres,	138			
Callao,	95			
Chicago,	150			
Corinto,	25			
Fiume,	15			
Galatz,	36			
Galveston,	40			
Hamburg,	205		5	
Havre,	15			
Hioho,	100			
Malaga,	90			
Melbourne,	105		9 pkgs.	
M. Video,	87			
Montreal,	275			
Newport N'ws,	1,297		75	155 bxs.
New York,	300			30 cks.
Oporto,	75			
Pacasmayo,	20			
Paris,	35			
Pernambuco,	305			
Puerto Cabello,	10			
Quebec,	30			
Rangoon,	15			
Riga,	135			
Rotterdam,	58			
San Francisco,	250		25	
San Sebastian,	130			
Santos,	50			
Seville,	250			
Stettin,	36			

Sydney,	54	30 pkgs.
Toronto,	40	
Valencia,	47	
Vera Cruz,	15	
Yokohama,	200	

Chemicals (otherwise undescribed)

Hamburg,	10 c.	£17
Montreal,	2 t.	68
Barcelona,	1	34
Addah,		5
Boston,	62	15
Yokohama,	10	1,077
Kurrachee,	1	35
Fairwater,	15	27
Genoa,	7	13
Antwerp,	8	14
Philadelphia,	13	430

China Clay—

Bombay,	10 t.	
Boston,	832	
New York,	100 cks.	

Chloroform—

Rosario,	1 cs.	
Vera Cruz,	1	

Citric Acid—

Victoria, B.C.,	2 c.	£12
Vera Cruz,	1 kg.	6

Coal Products—

Alizarine Oil		
Lisbon,	1 ck.	

Anthracene

Rotterdam,	100 brls.	
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Aniline Oil

Boston,	5 dms.	
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Aniline Salts

New York,	7 cks.	44 cs.
Piræus,	15	

Creosote Oil

Lisbon,	250 brls.	
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Naphtha

Melbourne,	40 dms.	
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Pitch

Rio Nunez,	25 brls.	
Rouen,	2 cks.	

Sables A Olonne,

	1,070 t.	
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Tar

Boma,	11 brls.	
Cabenda,	13	
Gaboon,	4	
Hamburg,	10	
M. Video,	20	
Montreal,		21 cks.
Philadelphia,	150	
Tocopilla,	5	
Valparaiso,	8 t.	4 c.

Tar Salts

Boston,	6 cks.	
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Cobalt Oxide—

Rotterdam,	2 c.	£50
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Copperas—

Alexandria,	5 t.	£15
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Copper Sulphate—

Paris,	14 t.	8 c.	£233
Nantes,	5	11	3 q.
M. Video,	9	14	3
Naples,	10		200
Bordeaux,	5		81
Rotterdam,		17	2
Dunkirk,	4	12	1
Alexandria,	20	2	347
Seville,	14	2	233
Rouen,	4	13	1
Aleppo,		12	10
Vera Cruz,		10	9
St John's, N'd'd.,	1	10	25
Ghent,	2	12	2
Puerto Cabello,	1	5	22
Barcelona,	3	18	2
Passages,	1	1	2
Catania,	4	18	1
Melbourne,	10		174
Marseilles,	35	1	635

Cream of Tartar—

Santos,	6 c.	£29
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Disinfectants—

Alexandria,	15 t.	2 c.	£450
Bombay,	2		13

Dried Blood—

Hamburg,	1 t.	£20
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Gelatine—

New York,	75 bxs.	
Vancouver, B.C.,	7 cks.	
Victoria, B.C.,	2	

Glue—

Alexandria,	3 brls.	
Melbourne,	2 cks.	1 bg.
New York,	17	
Pram Pram,	4	
San Jose de		
Guatemala,	2	

Guano—

Malaga,	20 t.	£180
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Iron Oxide—

Genoa,	2 t.	8 c.	£40
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Iron Sulphate—

Santos,	1 t.	19 c.	£100
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Lamp Black—

Victoria, B.C.,	6 cs.		
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Lime—

Sierra Leone,	10 cks.		
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Magnesia—

Seville,	12 cs.		
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Magnesium Carbonate—

Tampico,	15 c.		£16
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Magnesium Sulphate—

Catania,	50 bgs.		
Santos,	55 brls.		
Victoria, B.C.,	40 kgs.		

Manganese—

St. Nazaire,	19 t.	14 c.	
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Manure—

Valencia,	70 t.	16 c.	£245
Tarragona,	5	2	120
Gd. Canary,	5		75

Nitrate of Lead—

Genoa,	1 t.	14 c.	2 q.
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Ochre—

Lisbon,	10 bxs.		
Victoria,	7 cks.		

Oxalic Acid—

San Francisco,	2 t.	1 q.	£67
Vera Cruz,		3 c.	3

Paint—

Alexandria,	48 kgs.		
Amsterdam,	6	6 dms.	

Appam,

Appam,	1 cs.		
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Bahia,

Bahia,	36		
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Barcelona,

Barcelona,	2	248	5 brls.
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Belize,

Belize,

Potash —			
Milita,	2 c.		4.20
Potassium Bichromate —			
Vien Crm,	2 c.	15 c.	4.98
Soyima,	3	12	2.05
Potassium Carbonate —			
Savanna,	2 c.	2 c.	4.5
B. Ayres,	4 c.	2	35
Potassium Chlorate —			
Santos,	12 c.		4.40
Genoa,	1 c.		4.2
E. London,	10		4.4
Konigsberg,	1		4.2
Copenhagen,	1		4.2
Montreal,	12		2.9
Gothenburg,	3	14	2.9
Melbourne,	4		1.50
Lisbon,	4		1.20
Rotterdam,	2	10	1.31
Manila,	3	5	1.0
Boston,	3	15	4.95
New York,	22	7	1.113
Higo,	32	10	2.005
Potassium Prussiate —			
Calcutta,	4 c.	1 c.	4.12
Salt —			
Accra,	17 c.		
Algoa Bay,	3		
Antwerp,	245		
Baltimore,	505		
Boma,	12		
Bonny,	120		
Boston,	105		
Brisbane,	200		
B. Ayres,	10	10 c.	
Cabenda,	10		
Calcutta,	3,975		
Cameroon,	10	15	
Cape Town,	1	5	
Demerara,	101	10	
Ghent,	145		
Jersey,	8	10	
Lagos,	204	18	
Manaos,	17	17	
Melbourne,	5	1	
Monrovia,	25		
Montreal,	1,018		
Mussers,	7	15	
N'castle, NSW,	455		
N. Orleans,	90		
Noqui,	14		
Old Calabar,	205		
Pt. Elizabeth,	8	10	
Pt. Natal,	110		
Portland,	400		
Puget Sound,	840		
Rio del Rey,	10		
Rotterdam,	83		
St. John's, N'd.,	10		
Sapeli,	20		
Shanghai,	11		
Sierra Leone,	94		
Sydney, NSW.,	150		
Ukaka,	9		
Valparaiso,	800		
Vancouver, B. C.,	225		
Victoria, B. C.,	62		
Victoria, V. I.,	50		
Warri,	6	14	
Winnebah,	8	10	
Salt Cake —			
Sydney,	2 c.	3 c.	1 c.
Genoa,	10		
Laghorn,	5		
Antwerp,	251	17	
Boston,	40	13	
Philadelphia,	172		
Baltimore,	263	11	
Saltpetre —			
Callao,	1 c.	13 c.	2 c.
Melbourne,	1		
Santos,	8	18	
Portland, O.,	3	5	3
Rio de Janeiro,	19		
Hamburg,	11	2	
Sheep Dip —			
Sandy Point,	10 c.		
B. Ayres,	27 c.	4	2 c.
Algoa Bay,	12	3	
Slag —			
Hantes,	25 c.		
Soda —			
Alexandria,	20 kgs.		
Algoa Bay,	235	bxs.	70 cts.
Amsterdam,	415		505
Antofagasta,	21		
Antwerp,	5	1,800	
Baltimore,	30		
Barbados,	2		
Barcelona,	1		
Bombay,	685		225 bds.
Calcutta,	100		500
London,	12		15
Malaga,	120		

Calcutta —			
Calcutta,	100	95	125
Cameroon,	25		
Cape Town,	1,001	7	
Carril,	1		
Christiansburg,	100		
Clarence,	48		
Colombo,	26		
Copenhagen,	40		
Curacao,	106		
Delagoa Bay,	25		
Demerara,	4,411	2	
Durban,	100		
E. London,	1,065	25	
Friederikstad,	200		
Gaboon,	50		
Genoa,	10		
Gibraltar,	240		
Gijon,	1		
Gd. Bassa,	24		
Canary,	10		
Havana,	1		
Havre,	7,109		
Kurrachee,	49		
Lagos,	50		
Lardana,	100		
Livingstone,	200		
Manaos,	400		
Matadi,	67		
Mauritius,	1,029		
M. Video,	1,600	20 kgs.	
Montreal,	502		
N. York,	40		
N. Kombi,	40		
Nvongwe,	50		
Pacasmayo,	1		
Penang,	200		
Philadelphia,	1,000		
Pt. Natal,	248	205	
Quebec,	2		
Rangoon,	500	6	
Rotterdam,	510		
St. John's, N'd.,	10	2	
Savanna,	3,000		
Shanghai,	66		
Smyrna, 2 pkgs.,	1		
Strasbourg,	870		
Tangerie,	18 kgs.	1	
Teneriffe,	87		
Valparaiso,	18 kgs.	1	
Victoria, B. C.,	87		
Soda Alkali —			
Genoa,	100 bds.		
Odessa,	300		
Quebec,	35		
Soda Ash —			
Antwerp,	450 bgs.		
Baltimore,	5,152	34 cks.	428 tcs.
Barcelona,	100	85	
Boston,	1,900	177	94
B. Ayres,	50		700 bds.
Copenhagen,	50		100
Corfu,	200		13
Genoa,	50		44
Ghent,	140		140
Gothenburg,	50		2
Hamburg,	95		3
Havana,	50		10
Higo,	117		117
Kalmar,	100		50
Kobe,	327		150
Konigsberg,	125		138 tcs.
Maranham,	255	144	
Melbourne,	20		
M. Video,	170	426	
Montreal,	21 bds.		
N. Orleans,	32		
Newport News,	3,736		
N. York,	4,878		
Oporto,	20 bds.		
Patras,	122 tcs.		
Philadelphia,	5 bds.		
Pimental,	200		
Rio de Janeiro,	50		
Rosario,	100		
Rotterdam,	451		
Salonica,	100		
San Francisco,	10		
Santos, 10 dms.,	25		
Seville,	12		
Singapore,	500		
Smyrna,	12		
Sydney,	12		
Tampico,	12		
Valencia,	12		
Soda Crystals —			
Antofagasta,	20 bds.		
Boston,	196	250 bgs.	280 cks.
B. Ayres,	100		
Higo,	10 dms.		
Hong Kong,	56		
Iquique,	100 kgs.		
Lisbon,	5		
London,	25		
Malaga,	14		

M. Video,			40 cks.
Montreal,	327	675	50
New York,	140		
Patras,			1
Philadelphia,	560		100
Piree,	14		
Quebec,	25		
Rosario,			8
St. John's, N'd,		70	
Sodium Acetate —			
Genoa,	15 cks.		
Sodium Bicarbonate			
Aalborg		3 cks.	
Adelaide,	100 kgs.		
Alexandria,			10 brls.
Alicante,	100		
Ancona,	40		
Barcelona,	55		
Bari,	130		
Bordeaux,	20		
B. Ayres, 50 bgs.	80		
Calcutta,	50	44	
Copenhagen,	750		
Genoa,	100		
Hamburg,	20	26	
Hioo,	26		2
Leghorn,	100		
Lisbon,	20		
Madras,	60		
Malaga,	50		
Matanzas,	50		
Marseilles,	2		
Melbourne,	80		
Montreal,	687	23	50 bgs.
Naples,	1,840	15	
New Glasgow,	150		
Newport News,	100		
New York,	325	150	167 brls.
Odessa,	180		
Palermo,	16	4	
Paris,	6	84	
Philadelphia,		60	
Pt. Elizabeth,	40		
Quebec,	160		
Rotterdam,	20		
St. John,	100		
St. John's, N'd,	25		
San Francisco,	300	60	
St. Petersburg,	220		
Santos,	50		
Seville,	100		
Stamboul,	30		
Stettin,	45		
Sydney,	75		50 bgs.
Varna,	20		
Windsor,	10		
Sodium Carbonate —			
Riga,	10 kgs.		
Sodium Chlorate —			
Antwerp,	20 kgs.		
Boston,	60		
Sodium Hyposulphite —			
Genoa,	20 kgs.		
Sodium Silicate —			
Bombay,	12 brls		
Calcutta,		15 cks.	
Catania,	7		
Corinto,		27	
Corunna,		6	
Havre,	10		
Montreal,		149	
San Francisco,		50	
Zante,		10	
Sodium Sulphate —			
Boston,	200 bgs.	30 cks.	
Starch —			
Carril,	17 cs.		
Fernando Po,	1		
Pt. Natal,	120		
Santos,	6 cks		
Strontia —			
Hamburg,	110 t.	3 c.	£1,160
Sulphur —			
Montreal,	100 t.	4 c.	£366
Galatz,	5	11	23
Boston,	285	6	928
Trinidad,	1	10	6
Rangoon,	2	18	12
Victoria,	6	11	27
Portland, Or.,	1	10	8
Sulphuric Acid —			
Maranham		6 c.	£44
Rio Grande,		19	10
Matanzas,		16	8
Superphosphates —			
Nantes,	65 t.	4 c.	1 c. £143
Gd. Canary,	4		17
Brisbane,	20		41
Tartaric Acid —			
Victoria, B. C.,		1 c.	£3
Tin Chloride —			
Santos,		4 c.	£13

Treacle —			
Accra,	30 cks.		
Amsterdam,		23 bds.	
Antwerp,		10	18 c.
Brussels,		5	
Copenhagen,			20
Ghent, 30 hf.-pns.			
Gothenburg,	205		
Hamburg,	100		
Natal, Brazil,	30 cks.		
Rotterdam,		80	55
Terneuren,		25	
Turpentine —			
Manila,	30 dms.		
Barcelona,	25		
Varnish —			
Alexandria,	2 cks.		
Bombay,	115		
Cabenda,		30 bds.	
Calcutta,		20	
Catania,	2		
Guayaquil,	1		
Ibrail,		50 dms.	
Lagos,	1		
Leghorn,	5	3 cks.	
Manila,	25		
Santos,	8		
Valparaiso,	1		
White Lead —			
B. Ayres,	9 t.	16 c.	
Victoria, B. C.,	4		
Whiting —			
New York,	32 cks.		
Zinc Chloride —			
Boston,	1 t.	3 c.	
Bombay,	7	2	

MANCHESTER			
<i>Week ending November 6</i>			
Alum —			
Tripoli,	10 bds.		
Aniline Colours —			
Hamburg,	1 cks.		
Caustic Soda —			
Alexandria,	32 dms.		
Sfax,	10		
Bussorah,	20		
Chemicals (otherwise under)			
Alexandria,	10 cks.		
Rotterdam,		13 kgs.	
Treport,	20		
Alexandria,		8	
Antwerp,	2	45	
Bagdad,		10 bds.	
Bombay,	21		
Coal Tar Dyes —			
Rotterdam,	4 cks.		
Coal Tar Products (otherwise described) —			
Hamburg,	20 cks.		
Rotterdam,	25 bds.		
Copperas —			
Alexandria,	251 bds.		
Cosote Salts —			
Rotterdam,	43 cks.		
Farina —			
Hamburg,	9 cks.	24	
Linseed Oil —			
Alexandria,	80 bds.		
Mehdia,	3		
Copenhagen,	2		
Manure —			
Rotterdam,	119 t.		
Paraffin Wax —			
Jaffa,	15 cks.		
Pitch —			
Ghent,	303 t.		
Havre,	375	975	qty.
Potassium Bicarbonate —			
Alexandria,	43 kgs.		
Pyridine —			
Rotterdam,	6 dms.		
Sodium Silicate —			
Sfax,	10 bds.		
Starch —			
Antwerp,	11 tubs		
Whiting —			
Bombay,	66 cks.		

HULL.	
<i>Week ending November 2</i>	
Ammonium Sulphate —	
Ghent,	434 bds.
Rotterdam,	513

ing Powder—	
Antwerp, 33 cks.	
ic Acid—	
rdam, 20 btl.	
urg, 5 cks. 8 cs.	
c Soda—	
t, 35 dms.	
gfors, 10 21 btl.	
5	
als (otherwise undescribed)	
rdam, 5 pks.	
y, 1,622 cks.	
ania, 12 17 792 silbs.	
agen, 4	
ntinople, 30	
t, 75 pks.	
burg, 16 cs. 14	
urg, 1 11 11	
gfors, 2 1	
hee, 100	
gen, 12	
ork, 5	
dam, 27 80 200 pks.	
2 15	
71 12	
1	
eed Oil—	
rp, 300 c.	
rdam, 607	
ania, 34	
agen, 297	
t, 237	
urg, 542	
dam, 1,821	
69	
ffe (otherwise undescribed)	
ania, 5 cks.	
5	
ork, 101 cks.	
2	
xide—	
es, 300 cks.	
d Oil—	
y, 653 c.	
ania, 15	
ntinople, 35	
eim, 60	
urg, 136	
hee, 22	
lam, 202	
8—	
k, 64 t.	
a—	
12 dms.	
burg, 1 ck.	
gors, 3 15 dms.	
es' Colours—	
p, 27 cks. 2 cs. 3 pks.	
dam, 15	
f, 136	
1	
ania, 21	
agen, 8	
13	
5	
burg, 4	
rg, 52 1	
gors, 6 12 dms.	
hee, 1 10	
gen, 10 1 pkge.	
am, 6	
rsburg, 4 11	
er, 1	
orus—	
rg, 158 cs.	
p, 238 t.	
agen, 25	
rg, 1 cs.	
agen, 110 cs.	
27 cks.	
24	
10	
lam, 6 cks.	
110 t.	
im, 25 cks.	
ine—	
2 cks.	

Varnish—	
Antwerp, 7 cs.	
Bombay, 75 dms.	
Bremen, 2	
Copenhagen, 4	

GLASGOW.

Week ending November 7th.

Ammonia—		
B. Ayres,		£95
Ammonia (Liquid)—		
Hong Kong, 1 t. 12 c.		
Ammonium Sulphate—		
Barbadoes, 76 t. 17½ c.		
Barcelona, 100 12¼		
Trinidad, 25 9		
Valencia, 395 4¼		
Baltimore, 76 8½		
Hamburg, 101 9		
Berbec, 32 16½		
Demerara, 380 6½		
Bleaching Powder—		
Calcutta, 51 t. 9 c.		
Baltimore, 23 13½		
Caustic Soda—		
Calcutta, 20 t. 18 c.		
Canada, 56 17		
B. Ayres, 17 ¾		
Coal Products—		
Carbolic Acid		
Brisbane, 6 t. £30		
Germany, 6 t.		
Naphtha		
Paris, £54		
Pitch		
Italy, £1,952		
Amsterdam, 250 t.		
Antwerp, 376		
Dieppe, 285		
Havre, 373		
Tar		
Riga, 6 t.		
Bombay, £87		
Rangoon, 83		
Coal Tar Products (otherwise un-		
described)—		
Rotterdam, £668		
Cod Oil—		
Sydney, £24		
Copperas—		
Bombay, £70		
Dried Blood—		
Bordeaux, 5 t.		
Dyestuffs—		
Extracts		
Canada, £577		
Sydney, 26		
Turmeric		
Montreal, £21		
Dyestuffs (otherwise undescribed)		
Ipswich, £32		
Glucose—		
Canada, 3 t.		
Iron Sulphate—		
Bombay, £85		
Lime—		
Demerara, 30 t.		
Trinidad, 16 10 c.		
Linseed Oil—		
Auckland, 18¾ c.		
Brisbane, 1 t.		
Hong Kong, 1		
Sydney, 1 16½		
Trinidad, 2 6½		
B. Ayres, 1		
Demerara, 3 7¼		
Manure—		
Demerara, 28 t.		
Trinidad, 15 ½ c.		
Paint—		
Calcutta, £55		
Demerara, 44		
Hio, 56		
Hong Kong, 116		
Singapore, 148		
Sydney, 58		
B. Ayres, 97		
Bombay, 45		
Rangoon, 27		
Trinidad, 312		
Painters' Colours—		
Adelaide, £66		
Brisbane, 111		
Calcutta, 20		
Amsterdam, 5		
Paraffin Wax—		
Stockholm, 2 t.		
Phosphate—		
Trinidad, £204		

Potassium Bichromate—

Barcelona, £704	
Bordeaux, 154	
Canada, 251	
Hio, 200	
Melbourne, 22	
Victoria, 34	
Amsterdam, 195	
Bombay, 135	
Lyons, 202	
Rouen, 426	

Potassium Prussiate—

Barcelona, 4 t. 18¾ c.	
Lyons, 5 7½	
Paris, 5 6½	

Salt—

Trinidad, 26 t. 14 c.	
-----------------------	--

Sheep Dip—

B. Ayres, £145	
----------------	--

Soap—

Algoa Bay, 1 t. 1 c.	
Hong Kong, 15	
B. Ayres, 4 ¼	

Sodium Bichromate—

Barcelona, 8 t. 16¼ c.	
Bombay, 1 14	
Reims, 10 4½	

Sulphur—

Demerara, £22	
Trinidad, 22 t. 11½ c.	

Sulphuric Acid—

Bombay, £1,460	
Demerara, 50	
Rangoon, 332	

Tallow—

Lisbon, 7 t. 3¾ c.	
Oporto, 1 2	
Trinidad, 3 ¼	

Tin Chloride—

Bombay, £20	
-------------	--

Treacle—

Christiania, 30 t. 1½ c.	
Norrköping, 157	
Stockholm, 24	

Varnish—

Yokohama, £59	
---------------	--

TYNE.

Week ending November 2nd.

Alkali—

Hamburg, 15 t. 13 c.	
Rotterdam, 10 6	
Kalmar, 14 1	
Christiania, 8	

Alumina—

Rouen, 5 t. 2 c.	
------------------	--

Ammonia—

Barcelona, 1 t. 1 c.	
----------------------	--

Antimony—

New York, 60 t.	
Montreal, 4	
Rotterdam, 4	
Rouen, 2	

Arsenic—

Montreal, 6 t. 4 c.	
---------------------	--

Asbestos—

Trondhjem, 41 lbs.	
Gothenburg, 4½	
Bergen, 64 1 qr.	

Barium—

Genoa, 2 t. 3 c.	
Rouen, 40 12	

Barytes—

New York, 50 t.	
Hamburg, 150	
St. Petersburg, 46	
Rouen, 25	

Bleaching Powder—

Amsterdam, 28 t. 1 c.	
Antwerp, 34 2	
Hamburg, 23 15	
Aarhuus, 2 6	
Rotterdam, 18 17	
St. Petersburg, 99 14	
Terneuzen, 5 1	
Harlingen, 21 4	
Rouen, 6 3	
Christiania, 15 14	

Caustic Soda—

New York, 308 t. 19 c.	
Montreal, 29 7	
Seville, 10 3	
Amsterdam, 28 11	
Antwerp, 17 15	
Hamburg, 11 12	
Nykjobing, 1 9	
Barcelona, 43 1	
Genoa, 33	

St. Petersburg, 50 4	
Christiania, 4 7	

Colours—

New York, 2 cks.	
------------------	--

Kainit—

Arendal, 10 t.	
----------------	--

Lime—

Antwerp, 14 c.	
----------------	--

Litharge—

Montreal, 10 t. 1 c.	
Hamburg, 1 9	
Genoa, 1 15	

Magnesia—

Hamburg, 2 t. 15 c.	
Barcelona, 7	

Manganese—

Bilbao, 63 t. 8 c.	
--------------------	--

Oxalic Acid—

Montreal, 1 t. 13 c.	
----------------------	--

Paint—

New York, 16 t.	
Flensburg, 19 c.	
Antwerp, 4	
Genoa, 10	
Rotterdam, 1	

Soap—

Copenhagen, 5 c.	
------------------	--

Soda—

Amsterdam, 90 t. 19 c.	
Copenhagen, 1 9	
St. Petersburg, 200 11	
Terneuzen, 200	
Seville, 10 1	
Ancona, 5	
Gothenburg, 84 13	
Christiania, 9	

Soda Ash—

New York, 16 t. 1 c.	
Hamburg, 12 7	
Genoa, 10 7	
Rotterdam, 1 6	
Kalmar, 32 12	
Harlingen, 5 7	

Sodium Hypophosphite—

New York, 75 t. 6 c.	
----------------------	--

Tallow—

Genoa, 4 t. 7 c.	
Bilbao, 2 2	

White Lead—

Montreal, 45 t. 1 c.	
Bilbao, 11	
Copenhagen, 3 14	
St. Petersburg, 5	

GOOLE.

Week ending October 30th.

Chemicals (otherwise undescribed)

Ghent, 4 cks.	
Rotterdam, 121	

Coal Products (otherwise undes.)—

Boulogne, 2 drs.	
Rotterdam, 1 ck.	

Colours—

Boulogne, 2 cs. 1 dm.	
-----------------------	--

Dyestuffs (otherwise undescribed)

Antwerp, 6 cks.	
Ghent, 2 2 cs.	
Rotterdam, 7	

Manure—

Boulogne, 199 bgs.	
--------------------	--

Pitch—

Antwerp, 416 t.	
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GRIMSBY.

Week ending November 2nd.

Alkali—

Savannah, 50 cks. 50 pkgs. 60 dms.	
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Chemicals (otherwise unaescribed)

Dieppe, 1 cs.	
Hamburg, 28 btl.	
Savannah, 1	

Coal Products (otherwise undes.)—

Dieppe, 177 cks. 1 cs.	
Hamburg, 8 pkgs.	
Savannah, 6	

Colours—

Antwerp, 4 cks 2 cs.	
Dieppe, 2	
Hamburg, 1 2	
Port au Prince, 52	
Rotterdam, 5	

Dyestuffs (otherwise undescribed)

Antwerp, 1 ck.	
Dieppe, 16	

Manure—

Savannah, 8 cs.	
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PRICES CURRENT.

WEDNESDAY, NOV. 13TH, 1895

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids :—		£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/-	&	9/-
" Glacial	"			10/-
Arsenic S.G., 2000°	"	0	15	0
Fluoric	per lb.	0	0	3½
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
" (Cylinder), 30° Tw.	"	0	3	0
Nitric 80° Tw.	per lb.	0	0	1½
Nitrous	"	0	0	1¾
Oxalic	nett	0	0	3¾
Phosphoric, 1750°	"	0	1	1
Picric	"	0	0	10
Sulphuric (fuming 50 %)	per ton	15	10	0
" (monohydrate)	"	5	10	0
" (Pyrites, 168°)	"	3	0	0
" " 150°	"	1	5	0
" (free from arsenic, 145°)	"	1	7	6
Sulphurous (solution) S.G. 1025	"	3	0	0
Tannic (pure)	per lb.	0	1	0
Tartaric	"	0	1	1
Arsenic, white powdered	nett per ton	15	10	0
Alum (loose lump)	"	4	12	6
Alumina Sulphate (pure)	"	4	12	6
Aluminoferri	"	2	7	6
Aluminium	per lb.	0	2	10
Ammonia, Anhydrous	"	0	1	3
" 880 = 28° B.	per lb.	0	0	3
" = 24° B.	"	0	0	2¼
" Carbonate	nett	"	0	0
" Muriate	per ton	23	0	0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	&	37/-
" Nitrate	per ton	38	10	0
" Phosphate	per lb.	0	0	6½
" Sulphate (grey) London	per ton	8	15	0
" (grey) Hull	"	8	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt	"	0	0	4¾
Antimony	per ton	31	0	0
" (tartar emetic)	per lb.	0	0	7
" (golden sulphide)	"	0	0	10
Barium Chloride	per ton	6	7	6
" Carbonate (native)	"	3	5	0
" Sulphate (native levigated)	"	42	6	to 65/-
Bleaching Powder, 35 %	nett	"	7	0
" Liquor, 7 %	"	3	10	0
Bisulphide of Carbon	"	13	5	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	2	6
China Clay (at Runcorn) in bulk	"	15/-	to	30/-
Coal Tar Products and Dyes :—				
Alizarine (artificial) 20 %	nett per lb.	0	0	7¾
Magenta	"	0	3	4
Anthracene, 30 % A. f.o.b. London	per unit per cwt.	0	0	11½
Benzol, 90 % nominal	per gallon	0	1	4
" 50/90	"	0	1	3
Carbolic Acid (crystallised 40°)	per lb.	0	0	6
" (crude 60°)	per gallon	0	1	7
Creosote (ordinary)	"	0	0	1½
" (filtered for Lucigen light)	"	0	0	2
Crude Naphtha 30 % @ 120° C.	"	0	0	5½
Grease Oils, 22° Tw.	per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston	"	1	15	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	3
" Lucigen " and " Wells " Oils	"	0	0	2½
Copper	per ton	44	10	0
" Sulphate	"	16	10	0
" Oxide (copper scales)	"	41	10	0
Glycerine (crude)	"	18	10	0
" (distilled S.G. 1250°)	"	47	10	0
Iodine	nett, per oz.	0	0	9
Iron Sulphate (coppers)	per ton	1	5	0
" Sulphide (antimony slag)	"	2	0	0
Lead (sheet) for cash	"	12	12	6
" Litharge Flake (ex ship)	"	13	15	0
" Acetate (white ")	"	22	0	0
" brown ")	"	15	0	0
" Carbonat.: (white lead) pure	"	16	0	0
" Nitrate	"	10	0	0

Lime, Acetate (brown) ..		per ton	£ 5 7 6
" " (grey) ..		" "	7 17 6
Magnesium (ribbon and wire) ..		per oz.	0 2 :
" Chloride (ex ship) ..		per ton	2 7 6
" Carbonate ..		per cwt.	1 17 6
" Hydrate ..		per ton	17 0 0
" Sulphate (Epsom Salts) ..		per ton	3 0 0
Manganese, Sulphate ..		" "	17 0 0
" Borate ..		per cwt.	2 15 0
" Ore, 70 % ..		per ton	3 15 0
Methylated Spirit, 61° O.P. ..		per gallon	0 1 9
Naphtha (Wood), Solvent ..		" "	0 3 0
" Miscible, 60° O.P. ..		" "	0 3 0
Oils :—			
Cotton-seed..		per ton	18 5 0
Linseed ..		" "	22 0 0
Petroleum, American ..		per gallon	0 0 6½
Stearine ..		per ton	24 0 0
Phosphorus (yellow) ..		per lb.	0 2 3
" (red) ..		" "	0 2 8
Potassium (metal) ..		per oz.	0 3 7
" Bichromate ..		nett per lb.	0 0 4½
" Carbonate, 90% (ex ship) ..		per ton	17 5 0
" Chlorate ..		per lb.	0 0 4½
" Cyanide, 98% ..		" "	0 1 4
" Hydrate (Caustic Potash) ..	90%	per ton	24 15 0
" " (Caustic Potash)	75/80%	" "	21 10 0
" " (Caustic Po. ash)	70/75%	" "	20 0 0
" Nitrate (refined) ..		per cwt.	1 1 6
" Permanganate ..		per cwt.	2 17 6
" Prussiate Yellow ..		per lb.	0 0 7½
" Sulphate, 90 % (ex ship) ..		per ton	9 15 0
" Muriate, 80 % (do.) ..		" "	8 10 0
Silver (metal)..		per oz.	0 2 6½
" Nitrate ..		" "	0 2 0
Sodium (metal) ..		per lb.	0 2 1½
" Carb. (refined Soda-ash) 48 % ..		nett per ton	4 15 0
" " (Caustic Soda-ash) 48 % ..		" "	4 5 0
" " (Carb. Soda-ash) 48% ..		" "	4 0 0
" " (Alkali) 58 % ..	F.O.B.	" "	3 17 6
" " (Soda Crystals) ..		" "	2 2 6
" Acetate (ex-ship) ..		" "	14 0 0
" Arseniate, 45 % ..		" "	11 0 0
" Chlorate ..		per ton	0 0 6½
" Borate (Borax) ..		net, per ton	19 0 0
" Bichromate ..		per lb.	0 0 1¾
" Hydrate (77 % Caustic Soda)(f.o.b.) net pr. ton		to tons lots	(9 7 6 8 7 6 7 10 0 6 10 0 6 7 6)
" " (74 % Caustic Soda) ..		" "	8 7 6
" " (70 % Caustic Soda) ..		" "	7 10 0
" " (60 % Caustic Soda) ..		" "	6 10 0
" " (60 % Caustic Soda, cream) (f.o.b.) ..		" "	6 7 6
" Bicarbonate ..		" "	6 10 0
" Hyposulphite ..		" "	5 10 0
" Manganate, 30% ..		" "	16 0 0
" Nitrate (95 %) ex-ship Liverpool ..		per cwt.	0 7 6
" Nitrile, 98 % ..		per ton	31 0 0
" Phosphate ..		" "	13 5 0
" Silicate (glass) ..		per ton	4 10 0
" " (liquid, 100° Tw.) ..		" "	3 10 0
" Stannate, 40 % ..		per cwt.	3 2 9
" Sulphate (Salt-cake) ..		per ton	1 5 0
" " (Glauber's Salts) ..		" "	1 5 0
" Sulphide ..		" "	8 0 0
" Sulphite ..		" "	5 5 0
Strontium Hydrate, 100% ..		" "	8 10 0
Sulphocyanide Ammonium, 95 % ..		per lb.	0 0 6½
" Barium, 95 % ..		" "	0 0 4½
" Potassium ..		" "	0 0 7
Sulphur (Flowers) ..		per ton	6 0 0
" (Roll Brimstone) ..		" "	5 0 0
" Brimstone : Best Quality ..		" "	3 12 6
Superphosphate of Lime (26%) ..		" "	2 7 6
Tallow ..		" "	22 10 0
Tin Crystals ..		per lb.	0 0 5½
" English Ingots ..		per ton	69 0 0
Zinc (Spelter) ..		" "	15 3 0
" Chloride (solution, 100° Tw.) ..		" "	2 7 6

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SATURDAY, NOVEMBER 23, 1895.

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isements intended or insertion in the current week's issue each the office by Thursday morning at the latest.

CURRENT TOPICS.

MORE ABOUT DANGEROUS OCCUPATIONS.

ONE way and another there has been a good deal done as well as said in the last two years in connection with the question of dangerous or unhealthy employments. As far as the actual heavy chemical trade is concerned the thing is about played out now, but this does not seem to be the case with a number of closely related trades.

The special rules and regulations that were the outcome of the last inquiry in this connection can barely be said to be in full swing, and yet last week two new Departmental Committees were appointed by the Home Secretary to institute inquiries as to the conditions of labour in some thirty or forty industries in which either dangerous materials are used, or working conditions prevail.

We would not for a moment wish to infer that there is not room for inquiry in some of the industries we are about to enumerate, but at the same time it must be admitted by those who know anything about what has been done in the last twenty months, that in many there is nothing more to be said or done beyond making the rules already laid down practicable.

Among the industries forming the subjects of inquiry are the following:—India-rubber works, paper staining, colouring, and enamelling, dry cleaning, basic slag works, and the manufacture of silicate of cotton, electric generating works, sole stitching by American machinery, glass polishing, file cutting, bronzing and metallochrome powder in lithographic works, flour mills, the use of converters in metal works, the use of steam locomotives in factories, the licking of labels for reels in thread mills, the use of inflammable paints in shipbuilding yards, etc., galvanised iron works, the process of dyeing with arseniate of soda, the manufacture of grindstones and emery wheels, the use of lead in various forms in print and dye works, the testing of bottles by compressed air, and the bottling of aerated waters. These will be investigated by a committee composed of the following—Mr. H. J. Tennant, M.P. (chairman), Dr. Oliver (physician to the Infirmary, Newcastle-on-Tyne), Miss Abraham, her Majesty's inspector of factories, and Captain Smith, R.N. (secretary), her Majesty's inspector of factories, Sheffield. The field to be covered is a very wide and comprehensive one, and to arrive at reliable conclusions a great volume of evidence will have to be considered, all of which will take a lot of time. Had the inquiry been of a more restricted nature we should have been more hopeful regarding the practical outcome. As it is we fear the useful information will be irretrievably lost in the worthless, which means that the ultimate benefits will be relatively infinitesimal.

The other committee will be engaged upon a matter that is worthy of attention, viz., the conditions of labour in

industries that present considerable risk of contracting anthrax. The inquiry will not be confined solely to this matter; still it is the chief aim of the committee. The trades and works to be actually investigated are wool sorting, bone factories, hair factories, brushmaking, fellmongers, furriers, and tanners (employments in which anthrax occurs), wool combing, blanket storing and tenting, warp dressing, carbonising and grinding, &c., of rags, flock making, and feather cleaning.

As far as Bradford is concerned we know that there are excellent rules already in force. We are not in a position to say how far they are actually carried out by the operatives—that is another matter altogether. As far as we have seen the working of the rules in the past, we have little cause to think that any better results will accrue from the present inquiries. We do know on the contrary, for a fact, that in one trade where the Government substituted an "improved" preventive drink, the operatives positively refused to take it, preferring the risks of poisoning, whereas with the old drink there had never been any bother.

The proceedings of both committees will be conducted privately. We do not know that this makes much difference, as, if anything, we are inclined to think it is an advantage, as it should prevent the publication of immature conclusions or one-sided statements by those who love to revel in sensation at the expense of truth.

There is, however, one announcement in connection with these inquiries that is to us resonant with foregone conviction. Though the proceedings are to be private it is stated that the secretaries will be glad to receive representations, from those interested, of dangers either to health or life to which the workers are exposed. We suppose that representations of a negative nature will be just as acceptable as those supporting the committees? They ought to be, but there is room for ambiguity on the point.

THE STANDARD OF VALUATION FOR SULPHATE.

A point of considerable interest to sulphate of ammonia manufacturers has presented itself recently, which calls for prompt decision on the part of makers, so that if the idea is to be quashed the necessary steps may be taken before the innovation is supported by precedent.

It appears that buyers are endeavouring to raise the minimum percentage of ammonia to 24.5, an advance of half a per cent. upon the present standard. Half a per cent. is not a great matter to make a fuss about, is a thought that will, doubtless, present itself to many minds, but this is not exactly the only point involved. Under the present minimum there is a reasonable margin with which the maker can cover the inevitable variations of manufacture. If the minimum is raised this margin will be very seriously curtailed, imposing conditions upon the maker which will often prove irksome in the extreme, while the buyer gains practically nothing by the advance. Change the present standard, and all the sulphate made will virtually have to be of 25% quality.

If buyers are willing to pay for the higher quality at a higher rate, then the matter may be worth considering, but, judging by the difficulty just now of getting anything like a decent price, the chances of obtaining better values for such a trifling difference are almost microscopical. It is not very hard to see why buyers are making this move, but we can see nothing to justify their action. If they would support their attitude by pointing out some genuine grievance which they suffer under the prevailing conditions, they would strengthen their position. As things stand now complaints are not very numerous, but if the present limits are restricted, there is every reason to suppose that disputes will

become matters of constant occurrence. This is desirable, especially when the cause of the dispute is trivial.

It is important, therefore, that makers look into the matter at once and come to a decision, and having done so should advise them to act upon it rigorously. It is a matter that can be satisfactorily dealt with in a simple manner. It is a question of "Yes" or "No," and adhering to the answer persistently.

FILTRATION OF SEWAGE EFFLUENT

CRITICISM OF MR DIBDIN'S REPORT.

THE following are the criticisms of Dr. Angell upon the report by Mr. Dibdin to the London County Council on the filtration of sewage effluents, notably with coke, ballast, and a "proprietary" filter. The International Water and Sewage Purification Co., Ltd., has taken exception to portions of this report, and charged Dr. Angell to critically investigate the same. The result has been the following remarks, addressed by Dr. Angell to the directors of the International Company:—

"In Mr. Dibdin's report are given the results obtained with kinds of filters when used upon Metropolitan sewage after treatment with lime and copperas."

You will readily accept the principle that in order to obtain mean results of analyses for the purposes of comparison by different kinds of filters used, it is imperatively necessary that a number of samples from the same sewage alone must be considered. In my opinion it can be shown that this elementary principle has not been adhered to by Mr. Dibdin, and consequently the mean results are inaccurately stated.

The most accurate method of arriving at the true "average" effect is to obtain the mean results of a number of analyses shown by the reduction in amount of organic putrescible material dissolved in the fluid and tabulated as albumenoid ammonia. The "oxygen absorbed" test is peculiarly unreliable in cases where iron is used as a precipitant, and still more especially so where iron which yields up a considerable amount of soluble iron is used as filtering material. This is plainly seen by the erratic and haphazard manner in which the "oxygen absorbed" figures jump about, and the total absence of uniformity in their rise and fall, as compared with the same movements in the albumenoid ammonia figures. Note the case of polarite effluent, June 29th, the crude absorbed '890, after four hours, whilst the polarite is entered as '953, i.e., below the level yet by the albumenoid ammonia it is shown as giving a purification of 40 per cent.

I therefore adopt the latter as the proper set of figures from which to obtain the comparative degree of purifying powers in the filtration.

Taking the table representing the results obtained by "Filtration with Coke Breeze," it will be seen that on June 15th (see Report, p. 220, *by far the worst filtrate* produced during the whole series) included in the "Proprietary" Filter, but left out of the Comparative tables. On July 8th one of the *best* effluents produced in the series is included in the Coke Breeze, but left out of the "Proprietary" Filter.

This very materially affects the mean results of the whole series of experiments. Again, the figures for June 14th to June 21st should be altogether excluded from the table p. 3, "No. 5 Filter," because at that time the outlet of the filter was so choked that only a small portion of the filtering fluid to pass down through the small portion only of the material without being uniformly distributed over the area of eight square yards of Proprietary Filter bed, as, I believe, was pointed out, and the necessary alterations were made.

I feel justified in excising altogether the following samples from Tables No. 3 and No. 5 respectively, Coke Breeze and "Proprietary" Filter:—

From both tables, June 14th, 15th, 17th, and 21st, the four because the "Proprietary" Filter was not properly worked, and explained. The 15th also, for the other reason, namely, results are left out of Table No. 3 and put in Table No. 5.

July 8th of same tables is left out of my calculations because figures form a part of Table 3 and not of Table 5.

This leaves twelve samples, from which I calculate that the purification effected by filters worked by Mr. Dibdin's experiments shown by the albumenoid figures is:—

"Proprietary" Filter.....	67% Purification.
Coke Breeze Filter.....	58% Do.

* The Report does not set forth the nature of the precipitant used. It has been lime and copperas, the microscopic dose of 1/7 grains of each and 1 grain of the latter per gallon of sewage, as advised by Mr. Dibdin, and ridiculed by that eminent scientist, the late Dr. M. Tidy.

not quite fair to speak of the "Proprietary" Filter as process of double filtration" without stating the fact that top layer of sand was placed at the side of the Proprietary instead of upon the top. This arrangement was made for experimental purposes, and the filter was working under able conditions than the Coke Breeze or other filters. Had the "Proprietary" Filter been working exactly on all fours with the Coke Breeze and other filters there is no doubt but that the results would have been even more favourable to the "Proprietary" Filter.

July, 1893, your representative visited Barking. The man who had scraped off a little sand from the Sand Filter (the first of the "Proprietary" Filter) *once a week*. It was pointed out to him on which the "Proprietary" Filters ought to be worked *cleanliness*. With this I quite agree. However, in deference to Mr. Dibdin's wishes not to have the filters disturbed, the "Proprietary" Filter remained without any proper cleansing. It is well known that the system on which the "Proprietary" Filters are worked concerns itself a great deal with the cleanliness in everything connected with it, therefore the sand on the filter being allowed to get dirty is altogether at variance with the practice or recommendations of the company, whose system of purification depends mainly upon the purity and simple. The following are analyses of samples of effluent from "Proprietary" Filter and analysed by myself:—

	Grains per Gallon.	Albd. Amm.	Polarite (i.e., "Proprietary").
	Tank Effluent.	Coke Breeze.	
29	 '2067	 '0805	 '0595
1	 '3360	 '0975	 '0553
Average percentage of purification:—			
Coke Breeze.	Polarite (i.e., "Proprietary.")		
78 per cent.	 78 per cent.		

Samples were taken by the owners of the "Proprietary" Filter, and were considered to be a satisfactory proof of the superiority of the "Proprietary" Filter.

It is curious to note the fact that neither of these dates appear in Mr. Dibdin's report, although the whole series of filters were working upon these days.

7 of Mr. Dibdin's report a table of analyses made by Dr. M. O. H. of Surrey, sets forth the average degree of purification by the "Proprietary" Filter at the Sutton Sewage

works. The "Proprietary" Filter was not here worked in accordance with the method laid down by the company. Moreover, Dr. Jacob's figures for Mr. Dibdin are so much at variance, the former placing the "Proprietary" Filter far ahead and the latter putting it behind, that in both sets of results had better be ignored as unsafe to use for judgment.

The method of filtration makes *cleanliness* of the filters a *sine qua non* found in practice that the reliance upon the accumulation of a thin layer of sewage matter upon the bed in order to obtain a certain degree of purification is a dangerous proceeding; the line between nitrification and fermentation is an invisible one, and with much manufacturers' at Huddersfield or Salford for instance, fermentation is in the air of the day quite an impossibility, and even if the bacteriological equilibrium were once established (which in my opinion is an impossibility with many sewages of northern towns) it would be liable to be upset at any moment by the chemical refuse matters present in the effluent.

It is useless to try to make a "Proprietary" Filter, which relies solely upon direct chemical oxidation or combustion, therefore must be clean, into a filter, depending upon surface action by the aid of organisms which reside and flourish in dirt or

the following figures in Mr. Dibdin's tables cannot be passed over without comment.

Page.	Filter.	Filtrate by O absd. 4 hours.	Per cent. of Purification.	Filtrate by Albd. Amm.	Per cent. of Purification.
2	3	'539	65	'04	82
3	5	'539	65	'110	50
2	3	'322	76	'04	85
3	5	'322	76	'100	62

There is a coincidence in the figures appearing upon the same tables so far as the oxygen absorbed is concerned.

It is mainly extraordinary that No. 3 Filter and No. 5, on these dates, should produce degrees of purification by the oxygen absorbed absolutely identical! It is almost incredible that on these two occasions, coke breeze should have produced effluents which to the albd. amm. recorded are so phenomenally pure as to be almost identical with the effluent of the "Proprietary" Filter, whilst by the same test, No. 5 yields an ordinary effluent only.

For No. 5, upon both dates, effluents of ordinary purity were measured by both tests, whilst Filter No. 3 gave ordinary

figures identical with No. 5 in oxygen absorbed side by side with extraordinary figures by albd. amm. test.

I cannot accept these results with confidence; it appears to me that an error, either clerical or chemical, has somehow crept in. To sum up, I beg to state that in my opinion Mr. Dibdin's report is of very little value as throwing light upon what can be done with ordinary sewage for the following reasons:—

1. Mathematical discrepancies which have most unaccountably crept into his tables of analytical results.
2. The attempt at Barking to change your oxidising filter into a bacteriological or nitrifying filter.
3. The great difference between the chemical composition and degree of dilution of the Metropolitan sewage and the sewages of manufacturing towns.
4. London sewage is so much weaker than the generality of sewages, and therefore leaves so little oxidisable matter to be acted upon, that experiments upon it as evidence of what can be done with other sewages are of small value; mere straining through your patent clarifiers would be sufficient treatment for the London effluent.
5. The sewage for these experiments was not treated by the International process, i.e., with Ferozone."

THE ELECTROLYSIS OF MILK.

IN a somewhat lengthy paper by Mr. C. E. S. Phillips, the author, after referring to some of the tests adopted for ascertaining the purity of milk, proceeds to describe experiments undertaken to discover whether electrolysis would offer a more expeditious and reliable method than those in use. On electrolysis a sample of milk between platinum electrodes, the anode became coated with a white, spongy-looking material which increased until so thick upon the plate that it ultimately became disengaged and floated to the surface of the milk; it was observed on making experiments in this way that the white deposit consisted principally of a mixture of caseine and fat, that the milk gave off a characteristic odour during the electrolysis, and it was found to be slightly alkaline after the operation. The liberated caseine floating upon the milk seemed to show that owing to alkalinity of the solution it had become insoluble; it was, however, evidently due to the lifting power of the gas bubbles clinging to it. By continuing the electrolysis further it was possible to extract practically all the solids from the milk used (30 cubic cm.), leaving a transparent solution behind; at the same time no appreciable deposit of any kind took place at the negative electrode. Tests made with litmus paper during electrolysis showed that the action was extremely local; it was, however, noticed that the froth on the negative electrode produced by a too rapid electrolysis was strongly alkaline. The formation of caseine on the positive electrode was then studied in a miniature cell under the microscope. On making the circuit bubbles of gas appeared upon each electrode, more of course at the negative one, but at the anode a yellowish deposit grew and spread uniformly out towards the opposite electrode, a dark ridge was built up about equidistant all along the electrode, and became more definite till the band widened out on either side, and concentrated at a point immediately opposite the cathode. Very peculiar movements could be made to take place in this band by making and breaking the circuit rapidly. Photographs showing these changes are given by the author. A drop of litmus used to stain the milk showed that an acid and an alkali were formed at the anode and cathode respectively, evidently accounting for the deposition of caseine at the former. The action would appear to be similar to that which takes place when milk is exposed to air for some days; lactic acid is formed, which throws down the caseine. By electrolysis, however, the action can be started and stopped as desired, so that any portion or all of the caseine can be removed from the milk. Next a small vessel was divided into three compartments by means of two porous partitions, and the effects recently described by M. Andréoli were tried. About 10 cubic cm. of milk were poured into the centre division, while the anode and cathode compartments contained a solution of sodium chloride. On the passage of the current a deposit was formed in the centre compartment on the side of the partition separating it from the anode. When all three compartments contained milk, the deposit occurred on the sides of both partitions furthest from the anode. Under these circumstances it seems that an action takes place in the milk in the centre compartment. No deposit took place upon metallic plates immersed in the milk in either case. Some experiments upon the preservation of milk by means of this electrical withdrawal of a portion of its caseine were made, but with no success so far. Mr. Swinburne mentions, however, that milk can be sterilised electrolytically. In conclusion, the author states that platinum is the most suitable material to use for electrodes in the electrolysis of milk, as the lactic acid formed attacks most other metals. Aluminium can, however, be used in certain cases for the positive electrode, but it is eventually dissolved, and consequently of little use for quantitative work.—*The Electrician*.

Official Memoranda.

(From the Board of Trade Journal.)

CHANGES IN THE ITALIAN TARIFF.

The following is an abstract of certain recent changes in the Customs Tariff of Italy:—

Tariff Classification.	New Rates of Duty.	Old Rates of Duty.
	Lire cts.	Lire cts.
Salicylic acid	Quintal 80 00	Quintal 10 00
Ammonia	" 5 00	" 5 00
Potash and caustic soda	" 2 00	" { 0 50 5 00
Acetate of lime, impure	" 1 00	" 4 00
Sulphate of alumina and alum cake	" 1 00	" 0 50
Sulphate of potash	Free.	" 0 50
Sulphate of ammonia:		
Impure	Free.	" 0 50
Purified	Quintal 1 00	" 0 50
Phosphorus, white or red*	" 100 00	Free.
Acetates and pyrolignites not separately tariffed, exclusive of acetates of alkaloids, of ammonia, and of mercury	" 4 00	Quintal 4 00
Bromine or iodine	Free.	" 4 00
Salts of bismuth	Quintal 100 00	" 4 00
Bromides and iodides, exclusive of those of alkaloids	" 50 00	" 4 00
Corrosive sublimate	" 30 00	" 4 00
Salts of mercury, not otherwise mentioned	" 100 00	" 4 00
Salicylates, exclusive of those of alkaloids	" 80 00	" 4 00
Oxide of hydrated alumina (pure alumina)	" 4 00	" 4 00
Unenumerated	" 10 00	" 4 00
Resins, raw, and colophony (common rosin)	" 2 00	Free.
Other kinds	" 9 00	Free.
Fatty acids solidifying between 40° and 48°	" 4 00	Quintal 4 00

* Phosphorus for use in the manufacture of matches is imported *free* still, under certain conditions.

TARIFF OF NEWFOUNDLAND.

The following is specially abstracted from the schedule of rates now levied on merchandise imported into Newfoundland:—

ARTICLE.	DUTY.
Petroleum..... per gallon	Dols. Cents.
Salt in bulk..... per ton	0 06
Tallow and Palm Oil	0 02
Cement	ad val. 10%
Resin and Raw Turpentine.....	"
Olein and other Oils for making	"
Artificial Butter	"

The following are admitted free from any duty:—

Agricultural Implements.	Crushing Mills for Mining
Chloro-dinitro Benzol.	Purposes.
Cottonseed and Olive Oils.	Manures, all kinds.
Boracic Acid.	Sulphuric Acid for use in
Acetic Acid.	manufacture of Manures.

THE MANGANESE ORE TRADE IN THE CAUCASUS.

The exports of manganese ore through the ports of Poti and Batoum during 1894 show an increase of 24,345 English tons (of 62 pounds) over those for 1893, the figures being 157,275 and 132,930 respectively. Of these exports Great Britain took 65,110 tons in 1894 against 49,230 in 1893, whilst Germany received 51,455 tons in 1894 as compared with 40,405 in the previous year, the remainder of the exports being divided between North America, Russia, and Belgium.

The narrow gauge railway from Chiaturi to Shoropan, communicating with the Trans-Caucasian line, was opened for traffic at the end of May, 1894. The hopes which exporters had founded on the opening of this line were not realised to any great extent, owing especially to the want of a sufficient number of engines to haul the trucks laden

with ore. To prevent a preference being given to particular of the empty trucks at Chiaturi were apportioned amongst exporters in proportion to their stocks of ore. From July to November, 1894, the proportion was about one truck (holding about 250 pounds) to 10,000 pounds in stock at Chiaturi. As a result of this arrangement very large quantities of ore were sent from the mines to the warehouse, so as to enable exporters to receive a sufficient number of trucks to carry out their contracts. The non-arrival of two trains, promised for September, 1894, increased the congestion continued until the end of the year, when there were over 400,000 pounds of ore in stock at Chiaturi. New engines, however, arrived early in 1895, and it is hoped these will enable the exporters to meet the demands made upon it more satisfactorily than hitherto. A considerable number of the workmen employed in the carting of ore to the Trans-Caucasian Railway, who were thrown out of employment by the opening of the branch to Chiaturi, are now occupied in conveying the ore from the mines to that place; this has resulted in a diminution in the wages paid from 5 copecks to 2½ to 3 copecks per pound. Owing to this decrease, the present price of a pound of manganese ore, f.o.b. Poti, is about 25 copecks. As the price of each metallic unity is from 10d. to 10½d. per ton, equivalent to 20½ or 21 copecks per pound, f.o.b. Poti, it follows that the exporters are selling at a loss of from 4 to 4½ copecks per pound. The foreign consumer has reaped all the benefits from the opening of the new line. The causes of the reduction in the price of the ore are principally the facilitation of transport by the opening of the railway, the large accumulation of stocks at Chiaturi, the instability of the manganese ore trade, and the increase in the price of the ore consequent on the opening of the railway, and the exporters' desire to secure for themselves a portion of the trade and to avoid a pecuniary loss.

Many large firms are endeavouring to get rid of their stocks and to retire from the trade until a healthier state of things is apparent. A reduction of freight on the Chiaturi line could effect an improvement in the market, for although the present price of 10 copecks per pound for a distance of scarcely 40 versts is considered high, any reduction would only benefit the foreign consumer.

In Kutais, where most of the mine-owners and a large number of manganese ore merchants live, preparations are said to be on foot to form a general committee for the sale of the ore. Imports of manganese ore from Hamburg, which receives a considerable proportion of the ore from the Caucasus, have complained of the excessive Russian charges for freight, etc., and of the deficiency of proper loading-wharves. Only three vessels can load at once, the rest have to wait in the harbour for sometimes for three weeks without being able to ship. This is a source of considerable expense to shipowners, and the freights from Poti, and consequently the price of ore.

Every endeavour is being made to bring the present state of the manganese ore trade to an end. The Russian Ministry of Commerce has recently arranged for periodical meetings to be held at Chiaturi, interested in the trade. At these meetings the local mining officials will be represented as well as the shipping companies, and all questions affecting the manganese ore trade will be discussed. The chairman will be appointed by the Ministry of Agriculture. Whether these meetings will effect a definite understanding between all the parties interested appears doubtful. The claims of the Caucasian princes and proprietors to the land on which the manganese ore is found are so complicated as to require very careful adjustment.

CANADIAN WOOD-PULP INDUSTRY.

Slowly but surely a new item is forcing its way into the Anglo-Canadian trade in the British importation of Canadian pulps. Last year Canada stood third in the list of countries supplying British needs. That is to say, Norway exported to the United Kingdom to the value of £694,919, Sweden came next with £344,700, Canada third with £82,841, the export from the United States only £48,489. Much of this United States export is, no doubt, really Canadian, being classed as "United States" because of its exportation via Portland and other United States ports.

Beyond question, there is a great future before this Canadian making industry. It should outdistance all competitors. Of these the chief are Norway and Sweden. Norway has hitherto supplied one-half of British imports, and Sweden another quarter. Yet it is which the High Commissioner has made in the chief centers of paper trade, viz., in London, Lancashire, and in Scotland, that practical unanimity as to the superiority of the Canadian and Scandinavian, the former being more evenly made and the latter better adapted to paper-making. The President of the Durness Mills, in Lancashire, went so far as to declare that Canada would eventually command from 5s. to 10s. per ton more than Scandinavian if the quality be kept up, and it is worth noting

tons of dry pulp used in these mills in the year, 1,500 tons as it is. "The Canadian fibre," says the president, mill better, and is certainly of a finer and tougher texture." It is generally corroborated throughout the trade, and at present a great field for Canadian enterprise, for the British mechanical and chemical pulp were, in 1894, 280,188 tons, of £1,432,747.

SULPHURIC ACID MANUFACTURE IN ITALY.

Manufacture of sulphuric acid on a large scale was practically in Italy until the year 1856, but since then the output has been increasing. In 1880 the first Glover and Gay-Lussac plant was erected. Up to that time all sulphuric acid in Italy had been made from Sicilian sulphur in a very primitive way, by heating it on iron plates by means of wood fires. These, however, did not make way for properly constructed kilns, and the sulphur was oxidized by pyrites. At present all factories in Italy use pyrites; however, in addition make small quantities of pure acid for purposes from sulphur. Pyrites are found in many parts of the most important mines being those of Torella and Prete St. Eustachio. The latterly important beds have been discovered in Sicily. The acid varies between 43 and 48 per cent. Concentration is done in platinum vessels, but last year two works introduced a system with very good results.

Pyrites use lead chambers of the usual pattern, a trial, in one of Barbier's system having led to no results, so far as its efficiency is concerned.

Sulphurous anhydride and fuming sulphuric acid are not used in Italy, there being no demand for them, but a certain quantity of sulphuric acid is used for making saltcake for glass works. These only make enough sulphuric acid for their own manufacturing fertilisers.

All the Italian sulphuric acid works at the present time show a total of 108,400 cu. metres lead chamber space. These works make acid for their own consumption only. The largest is that of Biffi at Milan, which has a total of 10,700 cu. metres space. Three other plants have a capacity of 10,000 cu. metres each in chamber space; those of Candiani at Milan, of Previglio, and of the Nobel Company at Avigliana.

THE ACTION OF GLASS ON WINES.

According to "Le Journal de la Chambre de Commerce de Commerce," it has been noticed that wine bottled in different kinds of glass will improve in one, while in others it acquires a taste like

This fact is to be explained by the nature of the glass, and the cause is to be attributed to the modifications undergone by wine when in bottle for some time.

Comparison of the different kinds of glass used in making bottles is considerably. The usual materials (soda and potash) are replaced by others less expensive (lime, magnesia, oxide of which the acids contained in the wine exercise a decided effect. The substitution of lime for part of the soda and potash appears to be the principal cause of the bad quality of some bottles.

Legal Intelligence.

SUPREME COURT OF JUDICATURE.

COURT OF APPEAL.

Lord Herschell, Lord Justice A. L. Smith, and Lord Justice Rigby.)

LANCASHIRE EXPLOSIVES COMPANY (LIMITED) v. THE ROBURITE EXPLOSIVES COMPANY (LIMITED).

An appeal by the plaintiffs from a decision of Mr. Justice declaring their patent invalid. On November 10th, 1885, a patent was granted to Mr. H. H. Lake for an invention communicated to him by Carl Lamm of "an improved explosive compound," a solid material or compound, which was termed "bellit" or "bellite." It was made by mixing nitrate of ammonia, a solid, with fine when the latter was liquefied by heat, so that on cooling the mixture formed a non-hygroscopic coating round the grains and resulted in a serviceable and powerful explosive. This invention, by various mesne assignments, became, on December 31st, 1891, the property of Mr. F. J. Abbot, who, on December 1st, 1894, assigned it to the plaintiffs, the Lancashire Explosives Company, Limited, who also any claims which he might have against any persons who had been infringing the patent. On December 21st, 1894, the plaintiffs sued the defendants, the Roburite Explosives Company, for infringement of the patent since December 31st, 1892, and for usual relief. By their particulars of breaches the plaintiffs alleged that the defendants had manufactured and sold explosives made

similar in all respects to the plaintiffs' compound. By their further particulars of breaches the plaintiffs alleged that the explosives made and sold by the defendants contained nitrate of ammonia compounded with dinitrobenzene, otherwise dinitrobenzol ("benzine" and "benzol" or "benzole" being synonymous terms), to which a small percentage of chlorine may have been added for the sole purpose of producing an apparent difference between the two explosives. The defendants denied all the allegations in the plaintiffs' statement of claim, and alleged that the patent was invalid. By their particulars of objections the defendants alleged that Mr. H. H. Lake was not the first and true inventor of the alleged invention; that it was not novel or proper subject-matter of a patent; that it made no useful addition to the stock of public knowledge existing at date of the present patent; and that the patent was also bad on the grounds of disconformity, and by having been anticipated by various specifications referred to. One of the alleged anticipations mentioned the substances used; another described the coating of a nitrate by hydrocarbon (which was not nitrated). It was proved that a chemist conversant with explosives would suppose *a priori* that the ingredients used would be explosive if mixed as described; and that if solid particles were carefully treated with a liquid substance such as that used they would be completely coated thereby. The action came on for trial before Mr. Justice Kekewich on July 23rd last, when the learned Judge decided that there was no invention, and that the patent was consequently invalid. From that decision the plaintiffs now appealed.

In delivering judgment, Lord Herschell said he confessed that he should have had no doubt in this case, but that the learned Judge in the Court below had come to a different conclusion, than that the patent in question was a good one. The patent was for an explosive substance. The evidence adduced at the trial consisted of the answers given by the witnesses called by the plaintiffs. For the defendants no evidence was called. Infringement of the patent was then admitted, utility was admitted, and practically novelty also was admitted, because, when the matter came to be investigated, it was apparent that it could not be maintained that the patent was invalid on the ground that it had been anticipated. Mr. Justice Kekewich therefore did not rest his judgment on the ground that the patent was bad for want of novelty, but the learned Judge decided against the plaintiffs on the ground that there was no invention, having regard to the state of public knowledge at the time that the patentee took out his patent. Mr. Justice Kekewich thought that it needed no invention to produce the substance for which the patent had been obtained; he thought that that was the result of the evidence given by the chemists who were called as witnesses on behalf of the plaintiffs. His Lordship (Lord Herschell) could not so read the evidence. It seemed to him that the evidence was exactly the other way, and did not support the view taken by Mr. Justice Kekewich. When so read it appeared to his Lordship that Mr. Justice Kekewich was under a misapprehension in thinking that it was admitted by the witnesses that it needed no invention to produce the substance. [His Lordship read and commented on the specification relating to the plaintiffs' patent, and also the specifications of other patents of a similar nature, and continued.] Lamm had produced a substance which was said by Sir Frederick Abel, one of the witnesses, to possess in an eminent degree the four qualities desirable in an explosive—(1) That it should be a solid substance, (2) permanent in character, (3) entirely convertible by explosion into gas, and (4) to be exploded only by a detonator, and not by a blow or shock. Those, Sir Frederick Abel said, were the four things which made a good explosive. Bellite contained all the four. No one before had produced an explosive showing those four qualities combined. [His Lordship discussed the other patents and continued.] Lamm was the first person who told the public of a new explosive substance, never known before, and possessing all the four essential qualities. He had discovered and let the public know that by taking certain ingredients and mixing them in a particular way he could produce certain results. When he mixed the ingredients together he treated them in a particular way—that was to say, one was melted and another remained solid, and it was so arranged that when one was melted it should surround and become part of the one that remained solid. His Lordship was at a loss to say why it could be said that there was no invention. Chemists of high repute had said that there was. The patentee had produced a new substance, one not previously known to the public, and it seemed to his Lordship, therefore, that the patent was a good one, and could not be otherwise than supported. The decision of Mr. Justice Kekewich must consequently be reversed and judgment given for the plaintiffs.

Lord Justice A. L. Smith and Lord Justice Rigby delivered judgment to the like effect.

THE ADVANCE IN BURNING OIL.—The Scotch oil companies met on Wednesday for the purpose of raising the price of burning oil. American oil has been advanced to Scotch consumers to 7½d. per gallon, which is ¾d. above the price of Scotch oil.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Improvements in the Treatment of Nitrotoluene. A. G. Green and H. Benley. 20,941. November 5.
Improvements in Apparatus for Forming Cakes of Oil-seed Meal and like Substances. W. H. Stead. 20,998. November 6.
Improved Electrolytical Preparation of Sodium Hydrosulphite. L. Marchlewski and M. Hertz. 21,030. November 7.
New Compound of Iron and Alumina for Dyeing Purposes. G. C. Kinsloch and J. H. Butterworth. 21,068. November 7.
Improvements in the Treatment of Sewage and Apparatus therefor. D. Cameron and F. J. Commis. 21,142. November 8.
Apparatus for Applying Paints and Varnishes, etc. W. P. Adams. 21,157. November 8.
Improvements in Vacuum-pans. A. Forrester. 21,180. November 8.
Manufacture of New Aluminium Alloy. R. J. Roman. 21,186. Nov. 8.
Improved Process of Salt Manufacture. J. Renshaw. 21,199. November 8.
Improvements in Rock and Ore Crushing Machines. W. Spratley. 21,206. November 8.
Improvements in the Manufacture of Cement, etc. F. W. Golby. 21,293. November 9.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

Improvements in and connected with the Electrolytic Decomposition of Alkaline Salts. W. A. Rosenbaum, 118, South Fullerton-avenue, Monclair, New Jersey, U.S.A. Eng. Pat. 17,288. Sept. 17, 1895.

The cells, which are arranged in circular form, consist of a partitioned hood sealed at the bottom by a revolving tray containing mercury. The body of mercury is first subjected to contact with an alkaline chloride undergoing electrolytic decomposition, and so receives a deposit of metal. The amalgam is then placed, by rotation, in contact with an electrolyte capable of dissolving the alkaline metal from the mercury. While receiving its deposit of metal the body of mercury acts as the cathode of an electric circuit, and for extracting the metal from the mercury by oxidation, oxygen is produced by passing a current of electricity through the electrolyte between an anode and a cathode immersed therein, separate from the body of the mercury. The anode is located as near as possible to the surface of the amalgam. There are four drawings showing the general arrangement, and special provision made for mounting the electrodes and establishing electrical connections, as well as the disposition of the pipes for supplying the alkaline chloride, and removing the spent portions.

Improvements in the Manufacture of Pure Ammonium Carbonate. C. Raspe, 23, Sophienstrasse, Berlin. Eng. Pat. 199. Jan. 3, 1895.

The object is to obtain pure carbonate of ammonia from the liquid products of distillation of fossil bitumen, fuel, or bones. The difficulty of production lies in the removal of empyreuma and sulphur which generally exist in the raw products. Patent 7,846/93 describes a method of removing the former by treatment with oil, and the latter by passing over a metallic oxide. The improved treatment lies in passing the products of the first distillation over heated bog ore, whereby not only is the sulphur removed, but all, or certainly the greater part, of the empyreuma. It is then only necessary to pass the vapour through warmed porous carbon to remove the last traces of empyreuma, and condense the carbonate.

If the purification by the oxide treatment is not sufficient owing to the presence of excessive quantities of impurities, the treatment with oil, described in patent 7,846/93, is employed, but the oily layer is treated separately, while the other portions can be put through the process just described without delay.

Improvements in and connected with the Manufacture of Carbon Dioxide. J. S. Wallace, Cliftonville-avenue, Belfast, and F. L. Ball, Farnham, Surrey. Eng. Pat. 24,652. Dec. 18, 1894.

The plant employed is an iron retort lined with fire-resisting material and fitted with charging and cleaning doors, and also a delivery pipe for oxygen and exit pipe for CO₂. In the retort is placed charcoal, resting on a grid near the bottom. Connected to the exit pipe is a fan which forces the gases through an oxidizer fitted with cupric oxide and heated externally. The process is as follows:—A little glowing charcoal is placed on the charcoal in the retort and oxygen admitted to maintain combustion. The oxidizer is also heated. The fan is then started, drawing CO₂ and CO from the retort, and

passing the same into the oxidizer, where the CO is oxidized to CO₂. By a connecting pipe the total CO₂ is passed back to and through the retort, being thereby converted again into CO, which once more goes to the oxidizer, and from thence the surplus CO₂ formed by each is passed to a gasholder. In general, the heat of the action in the oxidizer is sufficient to maintain the necessary temperature, and after the initial heating no external heat need be applied. When the cupric oxide is exhausted the current of gas is turned into a retort, and the oxide regenerated by passing air over the hot metal.

Improvements in Evaporating Brine and other Liquids, and Apparatus therefor. E. G. Scott, 67, Lord-street, Liverpool. Eng. Pat. 24,652. Dec. 15, 1894.

This is an extension of patent 12,774/93, in which the heater was introduced into the evaporating vessel above the level of the liquid therein. In consequence it lost heat so rapidly under the direct action of the vacuum maintained in the evaporator, that the crystals which were deposited were too small to be of commercial value. The present patent aims at obtaining large crystals by introducing the heater at the bottom, and so distributing the heat that a gentle evaporation takes place over the whole area of the liquor, instead of violent points. This is accomplished by using a circular, shallow evaporation pan and passing the brine coming from the heater into it through a number of small pipes set round the pan near the bottom. The two drawings showing the plan and part sectional elevation plant.

THE POLLUTION OF THE SHIP CANAL

IN the Salford County Court, on Wednesday, before his Honour Judge Parry, the Salford Corporation applied for an order made by the Court in July last for the provision by the Corporation of means for treating the sewage discharged into the Ship Canal and the river Irwell. Mr. Roe Rycroft appeared for the Corporation and Mr. Sutton opposed the application on behalf of the Joint Committee. Mr. Roe Rycroft said they were asking for twelve months extension of time. Shortly after the order of the Court was made, a report of an important series of experiments made by Mr. J. H. Rycroft, chemist to the London County Council, was issued, which had considerably modified existing opinions as to the treatment of the sewage. The Corporation had adopted some of their filters upon Mr. Rycroft's methods, and their proceedings had also been delayed by other matters. The Manchester Corporation had had an extension of time given by the Committee, and why should not Salford have the same? The Salford Corporation was as anxious as the Committee to see the effluent going into the canal. In the report which the Joint Committee had issued they did not mention the Salford effluent at all. It was because it was so good. Mr. Sutton said at the order was made the Salford Corporation had been carrying out experiments for something like five years. The land which has been used for filtration purposes was still covered with sludge. The Corporation were trying to evade the order of the Court. Mr. Rycroft said the whole of it should be removed within a fortnight. His Honour said he thought there had been a great deal of unnecessary ill-feeling imported into the case in the past. He thought the interests of everybody the best system should be selected as possible. The matter would be adjourned until the 10th January. If a scheme had not been selected then, he should take it that the Corporation did not intend to comply with the order of the Court. In that case, should the Joint Committee apply for penalties, he should be compelled to grant them.

GOLD BY THE MACARTHUR PROCESS.—54,500 oz. of gold were recovered at the Rand and 7,000 oz. in other districts (61,500 oz.) during October by means of the MacArthur-Forest process. The September total was 64,000 oz.

PORTRAITS IN RELIEF.—The National Chemigraph Company (The Photogram) has brought out a new and very striking process work in the shape of reproductions from reliefs. The reliefs were chosen from white clay medallions, coloured with red to imitate old ivory, and the pictures printed in half-tone and afterwards embossed are exceedingly fine reproductions.

THE PHOSPHATE CONCESSIONS IN ALGERIA.—In reply to the English Government respecting the annulling of the (Algeria) phosphate concessions, which were secured by British subjects from the French Government, it is semi-officially stated, will explain that the act is one of domestic policy within the limits of the national independence. The concessions having been made in the first place to French citizens, the Government has no official cognizance of any transfer to foreigners.

Correspondence.

do not hold ourselves responsible for the opinions expressed by our correspondents.

SEWAGE FILTRATION EXPERIMENTS.

(To the Editor of the Chemical Trade Journal.)

Reference was made at the recent London Sectional meeting of the Chemical Industry to certain criticisms which I had made in my report on sewage experiments carried out at Barking, ordered upon by him to the London County Council on March 1895, and read at Burlington House I believe on Monday the 11th. These criticisms have been printed and circulated by the Internal Water and Sewage Purification Company, and surprise was expressed by some of those present that I should not have attended to the matter in open meeting the somewhat drastic statements made in my report. It was stated that I had been invited to attend; that, however, was not the case, and I knew nothing about the meeting until several days after it had been held. Under these circumstances will you be good enough to publish my criticisms, which had I been given the opportunity I certainly should have read at the meeting?—Yours faithfully,

ARTHUR ANGELL.

November 11th, 1895.

The criticism referred to appears on p. 320.—Ed., C.T.J.]

STATE OF THE CHEMICAL TRADE.

The Type and Wear district coke men report less than one per cent. idle. Chemical works are busier, and cement and white lead works are working full time. The salt industry is reported as good in the Loughborough and district. Calico printers are not busy in the district, and paper-makers are rather quiet. At Barrow-in-Furness, however, they are busier. There is a slight improvement in the chemical trade at St. Helens, and round Winsford, the salt trade is good at Middlesbrough. Paint and colour works keep fairly well at Hull, and there has been a small change for the better at the crushing mills. At Wolverhampton trade is good with oil, and varnish makers. In South Staffordshire the enamelling is brisk. With the exception of steel smelting, metallurgical iron-works are quiet in the Swansea district, and chemical works are dull. The fuel trade, however, is fairly brisk.

END OF THE GREAT PETROLEUM CASE.

Lord Chief Justice and Mr. Justice Grantham gave judgment last week in the matter of an arbitration between Samuel and the Société Commerciale, &c., which was heard a short time ago. Lord Russell said the question on the case came before them, case stated by arbitrators, to which case were to be added admitted facts. The subject in dispute arose in relation to a contract of November 9, 1891, made between Samuel and Co., acting for themselves and several other firms, and the defendant company of Balouin, described, for the sake of brevity, as B'nito. The agreement it appeared that Samuel and Co. were completing arrangements for the carrying of petroleum in bulk to the Far East, and agreed to purchase the oil for that purpose exclusively from B'nito for ten years. They agreed to take from the defendants certain quantities of oil yearly, which were to be carried away on tankers. On the other hand, B'nito undertook to supply the oil as required, and not to sell to other buyers any petroleum in bulk for the same time. So far, the agreement was silent as to the price; but it was provided that the price should be fixed at the beginning of each three months, and if at any time the parties could not agree, the same time first-class houses at Batoum were willing to sell for less than B'nito, then the latter was to act as agent of the plaintiffs, and contracts on their behalf, and receive a commission of 2½ per cent. By agreements of October, 1893, November, 1893, December, 1894, and May, 1895, a trades-union of petroleum refiners was formed, the effect of which was to destroy competition in the market of Batoum and place the fixing of the price of petroleum oil in the hands of the agents of the union, of which B'nito was one. It was not suggested that B'nito had any special object than the protection of trade, or that he was acting with a view to prevent the carrying out of the contract. For some time the price was fixed for each three months by mutual agreement, but the formation of the union B'nito demanded prices which he deemed to be excessive and unreasonable, and which they refused to agree to. Delivery of the oil was, however, continued without prejudice to the rights of either party, and although the

plaintiffs demanded that the question of price should be settled by arbitration in London, B'nito declined to accede to such a course. In this state of things two questions arose. The union having prevented an open market in Batoum, the plaintiffs contended that B'nito had broken an implied obligation on his contract; and, secondly, they said that he had broken his contract by declining to submit the question of price to arbitration. As to the first contention, he was far from being satisfied that what B'nito did in joining the union was a breach of any implied contract; but, as to the second submission, he held that when the parties were unable to agree upon the price and a dispute arose, B'nito, by refusing to arbitrate, committed an actionable breach of contract. Judgment would, therefore, be for the plaintiffs, with costs.—Mr. Justice Grantham concurred.—Judgment for the plaintiffs, with costs, accordingly.

Trade Notes.

ROYALTY ON PHOTOGRAPHS.—An evening paper recently published a paragraph about the wonderful sales of certain portraits of the Royal family. One case in particular is mentioned, that of a snapshot portrait of the Prince of Wales, taken at Richmond by a local photographer. It is said that the Prince was caught in the act of smilingly extending his hand in welcome. Report says: "Fifty pounds and a royalty of one penny for every copy sold, was the price asked for the negative—a tolerable sum, considering that the operator had neither invented the smile nor paid anything for the privilege of taking the picture." But it does not say that he got it!

OLEO-STEARINE NOT FREE AS TALLOW.—This was an appeal against the decision of the Customs Collector at Milwaukee, Wis., U.S.A. The merchandise of this case consisted of oleo-stearine, assessed for duty at 20 per cent. ad valorem under Section 3 as a manufactured article not otherwise provided for in the Tariff Act of August 28th, 1894, but claimed to be entitled to free entry as tallow under paragraph 645 of said act. The evidence in the case established the following facts:—1. That the article subject of protest, called tallow, "is known commercially all over the world as stearine;" and that it is sometimes called oleo-stearine. 2. That the difference between the tallow of commerce and the oleo-stearine of commerce is in the percentage of stearic acid contained in the articles respectively. 3. That tallow never contains more than 51 per cent., while oleo-stearine rarely contains less than 70 per cent. of stearic acid. The protest was overruled.

GOLD PRODUCTION.—Paarl Central: Results for last month—Mill crushed 3,306 tons, yielding 1,424 oz. of gold; cyanide works treated 2,785 tons, yielding 906 oz. of gold; total, 3,330 oz. of gold. The battery was stopped on October 24th for want of water, and recommenced crushing November 9th. Lydenberg Mining Estates (New Clewer Mine): Results for September—From mill, crushed 1,968 tons, yielding 1,417 oz. 17 dwt. of gold; from cyanide works, treated 826 tons, yielding 805 oz. 7 dwt. of gold; total yield, 2,223 oz. 4 dwt. of gold. Results for October—From mill, crushed 2,040 tons, yielding 991 oz. of gold; from cyanide works, treated 700 tons, yielding 482 oz. of gold; total yield, 1,473 oz. of gold. Spitzkop Farm: Return for October—768 English tons gave 42 oz. from 10-stamp mill, 261 oz. from cyanide, and 520 oz. hydraulic; total, 823 oz. Glencairn Main Reef: Production for October, 1,955 oz., 100-stamps, 7 days. The new cyanide plant and the 100-stamp mill are working well. May Consolidated: The yield of gold during October was 3,671 oz. from 11,000 tons crushed. Mill running 30 days. Cyanide, 1,933 tons, 6,300. Nigel: Last month's crushing yielded 1,185 oz., battery 1,269, cyanide and residues 2,454 oz.

ELECTRO-CHEMICAL COMPANY, LIMITED.—The second ordinary general meeting of this company was held recently at the registered offices of the company, St. Helens, Lancashire. The Chairman (Col. T. J. Holland) in the course of a full statement as to the condition of the works, etc., explained why they had chosen St. Helens as the seat of their operations. He pointed out the disadvantage of being in an agricultural district as they would have been at Snodland, for as the Chairman stated, though no chlorine is allowed to escape, an injunction might have been applied for, entailing legal expenses. Referring to the progress of the process the Chairman proceeding said, "We have proved, and are daily practically demonstrating to the sceptical chemical world and to the expectant electrical profession, that purer and better bleach and caustic soda can be made by our simple electrical process than by any of the older processes, and can, moreover, be so manufactured at something like 50 per cent. less cost." It appears that additional patents have been applied for in India, Russia, Spain, Sweden, Norway, Denmark, Portugal, Turkey, Mexico, Argentina, Chili, Brazil, Uruguay, New South Wales, Queensland, South Australia, Western Australia, Victoria, New Zealand, Tasmania, Cape of Good Hope, Natal, and the Transvaal. Of these the Russian

patents have been sold for £6,000. In the opinion of the chairman, however, their wisest course would be to manufacture as far as possible all their electrolytic alkali themselves at St. Helens for the British, Irish, and, perhaps, the American markets, and to issue as few licences as possible. A plant is at present being worked at a paper mill in France, in addition to the plant at St. Helens, and a Japanese paper maker is also negotiating for the patent rights. The chairman concluded his statement with a critical comparison of the Castner-Kellner process with their own.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Tar products generally are firmer. For benzols much better prices are being obtained, 90's being quoted about 1s. 8d. and 50/90's 1s. 7d. Carbolic acids are strong, 60% crude is worth 1s. 7½d., while 40% crystals are scarce at 6d. Naphthas are steady, solvent having advanced to 1s. 3½d., while a further advance is looked for. Crude is quoted 5¼d. Anthracene and creosote are steady. Pitch firm at 38s., f.o.b. East Coast.

Sulphate of ammonia is a shade firmer, but buyers are chary, so that the market shows very little life. Values appear to vary considerably, for prompt and forward is quite in abeyance. Beckton quotation is £9., London outside makes £8. 15s., Liverpool £8. 16s. 3d., Hull £8. 16s. 3d. to £8. 17s. 6d., and Leith £8. 17s. 6d., all prompt.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is steady and in better demand, considerable sales having been made for spot and forward, including Lagos at £20. 5s., Bonny and Old Calabar £19. 10s., and hard oils £19. 2s. 6d., all transit. There has been more doing in olive, some sales having been made at rather easier rates. Linseed continues quiet at 21s. 3d. to 22s. per cwt., in export casks. Cottonseed is unaltered, but steady at 17s. 9d. to 18s. 3d. per cwt. for Russian refined, and American 17s. 9d. Castor oil is very firm; good seconds Calcutta is steady at 2½d. (spot), while first pressure French is being firmly held at 2½d. to 2¾d. per lb., with an improving inquiry thereat. Tallow is rather better, prices vary according to position, but South American has been reported at 24s. per cwt., ex quay. Resin keeps very firm, while the demand is fair. Spirits of turpentine are practically unchanged as regards inquiry, and absolutely so in price, which stands at 20s. 6d. per cwt. Petroleum firm: American 7½d. to 8¼d., and Russian refined 6¾d. per gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15. Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead unchanged. Venetian red, £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide, £22. 10s. to £25.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, dull: Scotch warrants closed at 46s. 5d.; Middlesbrough, 37s. 10½d. cash, and hematite, 47s. 4½d. Copper, firm: Chili bars, G. O. B.'s and G. M. B.'s closed at £42. 8s. 9d. to £42. 13s. 9d. cash, and £42. 17s. 6d. to £43. 2s. 6d. three months. Tin, steady: Straits closed at £64. 12s. 6d. to £65. 2s. 6d. cash, and £65. 7s. 6d. to £65. 17s. 6d. three months; Australian, £65. 12s. 6d. English ingots, £68. to £68. 10s. Lead, firm: Spanish, £11. 10s.; English, £11. 13s. 9d. to £11. 15s. Silesian spelter, ordinary, £15. Nickel, 1s. 1½d. Antimony, £30. 15s. Quicksilver: first hands, £7. 7s. 6d. second hands, £7. 5s. Copper shares, steady: Cape, 2¼ to 2½; Copiapo, 1¼ to 2; Libiola, 2¼ to 3; Mason and Barry, 2¼ to 2½; Rio Tinto, 14½ to 14¾; Tharsis, 4¼ to 4½.

GLASGOW, WEDNESDAY.—Market firmer, with moderate business. Scotch done at 46s. 3d. and 46s. 5d. cash, also at 46s. 5½d. and 46s. 7d. one month; closing with buyers at 46s. 5d. cash, sellers ask 46s. 5½d. Cleveland closes with buyers at 37s. 10½d. cash, sellers ask 38s. Cumberland hematite done at 47s. 3d. cash, also at 47s. 5½d. and 47s. 7d. one month; closing with buyers at 47s. 4½d. cash, sellers ask 47s. 6½d. Middlesbrough hematite closes with buyers at 45s. 4½d. cash, sellers ask 45s. 7½d.

REPORT ON MANURE MATERIAL.

The market throughout the week has been very quiet, and alteration in prices has been in favour of buyers. Quotation mineral phosphates are unchanged, but concessions would no doubt be made by sellers if it were to induce important business. £3. 17 per ton has been accepted for a cargo of River Plate bones there would be further sellers at the price, but buyers' views as to have receded, and £3. 17s. 6d. would not now be obtainable unless cargoes of handy size. Crushed Kurrachee bones, for shipment, at £4. per ton, ex quay, and Bombay bone meal, November-December shipment, may be had at £3. 18s. 9d. per ton. There is more inquiry for bones for the Continent and the Mediterranean, but this inquiry not so far led to any recovery in prices, though it may very possibly prevent a further decline. Nitrate of soda is quiet in all visible supplies being large and the hoped-for combination of prices not having been effected. Fine quality on spot may be had at 7s. per cwt., and ordinary at 7s. 6d. per cwt., in quantity, ex quay.

MISCELLANEOUS CHEMICAL MARKET.

The demand continues fairly active for all products of the alkali. Bleaching powder for export is firm, both for spot and forward delivery at £7. 7s. 6d. to £7. 10s. per ton, f.o.b. Liverpool, and £7. per softwood casks, f.o.r. makers' works for prompt delivery. A 58%, steady at £3. 7s. 6d., bags, makers' works, and £3. 17s. casks, f.o.b. Caustic soda unchanged in any position, and prices are as follows: F.o.b. Liverpool, 77%, £9. 10s.; 74%, £8. 70%, £7. 10s.; 60%, £6. 10s. nett per ton, 10-ton lots and up. Soda crystals steady at 35s. per ton, bags, makers' works. Soda has further improved, 25s. to 26s. being nearest spot value, Lancashire and Cheshire, and 30s. to 35s. quoted for 1896 delivery. Leblanc caustic soda ash is rather dearer. Chlorate of potash per lb. Chlorate of soda scarce at 6½d. per lb. Sulphur £3. 1s. nett, makers' works. Sulphate of copper steady at £16. 5s. per f.o.b. Acetates of lime are unchanged in position for spot delivery. Potash, caustic and carbonate, is in fair request, and prices will change. Nitrate of soda steady at 7s. 6d. per cwt. For sulphur iron there is generally a better demand, and higher prices are asked. Yellow prussiate of potash steady at 7¾d. per lb. Sulphocyanate is in moderate demand, but without improvement in values. powdered arsenic scarce, and £15. 15s. to £16. per ton is quoted for spot lots. For borax and boracic acids quotations are steady and demand being quiet some restriction of make is necessary. Tri-sulphate of iron is reported quiet, and there is no indication of any improvement in values, which is much to be desired in all branches of the chemical trade.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

The general chemicals market is still upheld in the late most satisfactory condition, although Continental shipments are now daily running down to the usual winter zero. The demand for inland consumption is in considerably healthier force than it was a few days ago. Sulphate of copper is quoted up to £17., and saltcake fully maintains its position as a rising article. Bichromate of potash and chromate of soda remain at the old convention prices as stated, but on the market there is a growing feeling that the allied chemicals (Scottish, German, and American) will in the course of time currently advance the value, probably to the pitch of an additional penny per pound. Sulphate of ammonia seems plucking up a more of spirit, and towards the close of last week £8. 17s. 6d. was got for a good brand. There is a sort of boom in mineral oil paraffins, especially in mineral burning oils, owing to the firmness of the American petroleum market. Scotch native oil is in large demand from the works to contract customers, and therefore at the old price; but outside and casual sales are fetching advanced money, say a halfpenny per gallon more than hitherto.

Chief prices current are:—Soda crystals, £2. 2s. 6d., home, nett; soda ash, 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white, 48/52°, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. Glasgow; caustic soda, white, 76° £9. 5s., 70/72° £7. 15s., £6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching powder, £6. 10s. to £7. nett, Tyne; saltcake, 25s.; borax, E. refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries; export, 4¼d. nett, f.o.b. Glasgow; bichromate of soda, 3¼d. nett, Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 4¼d. less 5%, Liverpool; nitrate of soda, 7s.

ulphate of ammonia, £8.16s. 3d. to £8.17s. 6d., prompt, f.o.b. sal ammoniac, first and second white, £39. and £37. nett, any sulphate of copper, £16.15s. to £17., less 5%, Liverpool; paraffin oil, 2½d., and soft, 1½d. to 2½d. per lb.; paraffin wax, 120° med, 2½d. to 2¾d.; paraffin spirit (naphtha), 8½d. to 9d. per gallon (burning) No. 1, 6½d., and crystal, 6¾d., at works, ch buyers (English sales about ½d. lower); ditto (lubricating) 7s. 6d. to £4.15s., 880° £5. to £5.5s., and 890/895° to £6.10s. Week's imports of sugar at Greenock were bags beet unrefined, and 2,950 bags beet refined; also 7,379 myra Jaggery, from the East Indies.

LL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

The markets for cottonseed and linseed continue dull, with rapeseed. Rape and castor, upon the contrary, continue to show improvement. The imports here of olive oil show a noticeable increase and are 3,317 tons, against last year during the same period. The stock of cottonseed at Alexandria on November 8th, 200 tons; the shipments to Hull since September 1st have been 500 tons, against 28,870 tons last year. Linseed oil quiet: Spot the end of the year, 19s. per cwt. naked; forward Jan.-Aug. 7½d.; boiled and refined, £1. to £1.10s. per ton extra. Oil dull: Refined is quoted, spot, naked, 15s. 6d.; forward, April, 15s. 10½d.; crude, 14s.; and Dec.-April, 14s. 7½d.; casks 17s. 6d. and barrels 30s. per ton extra. Turpentine, per cwt. Olive oil, from £32.10s. to £35. per ton, Candia most in supply. Boiled siccative oil, £13. per ton. Cod oil, £20. per ton. Herring oil, £14. Castor oil, 2¼d. per lb. pressure. Liquid soap, £16. per ton. New wool carding oil, 10s. per ton.

ES.—Linseed cakes in moderate request: 95% pure, £6.2s. 6d. 10s. per ton. Russians, £5.15s. to £6. per ton. Oil cakes in demand, 95% being in best demand, £5.5s. to £5.10s. Cotton Deliveries continue good, but fresh orders are not so plentiful; cakes, £4.; seconds, £3.15s. to £3.17s. 6d.; best makes, April, £3.15s. Rape cakes, Black Sea, £2.7s. 6d.; feeding, 6d. per ton.

NTS.—These articles have at present only the usual winter demand, fresh orders being difficult to get. Already consumers talk of limiting their requirements in anticipation of the year. White lead, £16. per ton. Red lead, £14. per ton. Oxide of changed. Dry mineral colours unchanged, from £4. to £8. per ton. Black, blue, red oxide, Venetian red, green and yellow ochre from £11. per ton. Paint remover, 25s. per cwt. Imperial varnish, £5.10s. per ton, in barrels free.

TYNE CHEMICAL REPORT

TUESDAY.

Chemicals are quiet with few alterations. Bleaching powder and are still scarce, and shipping in fair quantities. Soda crystals, 6d. to £2.5s. per ton, gross weight, locally. 76/77% caustic, to £9.10s. per ton, and sulphur firm at £3.17s. 6d. to £4. per

thing powder, softs, £7.5s. per ton, nett; hard, £7.10s. per ton, caustic soda, 76/77%, £9.10s. per ton, nett; do., 70%, £7.15s. nett; recovered sulphur, 2 cwt. bags, £3.17s. 6d. per ton, nett; do., 48%, £3.15s. per ton, nett; do., 52%, £3.17s. 6d. per ton; do., 56%, £4. per ton, nett; alkali, 36%, £2.15s. nett; white alkali, 48%, £4.10s. per ton, nett; do., 50%, £4.10s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of 7 cwt. casks, £6.10s. per ton, nett; do., 1 cwt. kegs, £7.5s. nett; silicate of soda, 75° Tw., £2.12s. 6d. per ton, nett; 60° Tw., £3. per ton, nett; do., 140° Tw., £3.7s. 6d. on, nett; soda crystals, casks, £2.5s. per ton, nett weight; do., 2 cwt. bags, £2.5s. per ton, nett weight;

chlorate of potash, 5d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4.2s. 6d. per ton, nett; blanc fixe, £7.10s. per ton, nett; chloride of barium, £7.10s. per ton, nett; carbonate of alumina, £28.15s. per ton, nett; aluminate of soda, £33.15s. per ton, nett; in 5 ton lots, £28.10s. per ton, nett.

SALT.—There is a good demand for South Durham salt (common) at 9s. 6d. to 10s. per ton, f.o.b., Tees.

COALS.—Market is only dull, though there is a slightly improved demand for bunker coals, and gas coals are in increasing consumption. To-day's quotations are:—Best Northumbrian steam, 8s. to 8s. 3d. per ton; second qualities, 7s. to 7s. 3d. per ton; small steam, 4s. per ton; bunker coals, firmer, 6s. to 7s. per ton; gas coals, steady, 6s. 9d. to 7s. 6d. per ton; coke in good demand, 14s. to 14s. 9d. per ton.

New Companies.

Newcastle Pure Soap Co., Ltd.—CAPITAL £2,000., in £10. shares. This company has been formed to acquire and carry on the business of manufacturers and dealers in soap, chemicals, and pumice stone, &c.

Joseph Batson and Co., Ltd.—CAPITAL £25,750., in £10. shares, of which 2,000 are preference. The company has been formed to acquire and carry on the business of oil and grease manufacturers, formerly carried on by J. Batson and Co. at Dudley-road and Castle-street, Tipton, Staffs. The subscribers to the memorandum of association are:—J. Batson, Sandwell-road, Handsworth, gentleman; H. S. Batson, Devonshire-road, Handsworth, manufacturer; Mrs. W. Batson, Sandwell-road, Handsworth; Miss F. K. Batson, Holyhead-road, Handsworth; Mrs. I. M. Wright, Holyhead-road, Handsworth; Miss I. E. B. Batson, Holyhead-road, Handsworth; J. W. B. Wright, Pitcairn, Handsworth.

Garforth Glue and Gelatine Co., Ltd.—CAPITAL £15,000., in £1. shares. This company has been formed to acquire the business of C. H. Robshaw, at Garforth, near Leeds. The subscribers to the memorandum of association are:—C. H. Robshaw, St. Helens House, Garforth, Leeds, manufacturer; W. Robshaw, Vesper-road, Leeds, agent; J. Robshaw, 9, St. Columba-street, Woodhouse-lane, Leeds, wholesale woollen rag merchant; W. L. Verrel, 70, Francis-street, Leeds, traveller; W. Walker, 4, Commercial Buildings, Leeds, accountant; H. Gallon, 7, Upper Fountain-street, Leeds, merchant; S. P. Smith, 40, Holdforth-street, Leeds, glue maker.

Spanish Phosphorus Co., Ltd.—CAPITAL £50,000., in shares of £1. each. This company has been formed to acquire certain mines, &c., in Spain, Portugal, and elsewhere, and to carry on the business of miners, manufacturers of phosphorus, bisulphide of carbon, acids, and oil refiners. The subscribers to the memorandum of association are:—F. Wynne, 13, Ashley Gardens, S.W., C.E.; D. Urquhart, 17, Victoria-street, S.W., C.E.; E. F. B. Rolfe, 69, St. George's-square, S.W., C.E.; R. Loam, Twickenham, secretary; A. H. Hailston, Oakenshaw, Northwood, agent; G. de C. Hamilton, Arundel-street, W.C., solicitor; C. F. Andrews, Arundel-street, W.C., solicitor.

Gazette Notices.

PARTNERSHIP DISSOLVED.

A. BARDEN and S. BARDEN, size and glue manufacturers, Shelley, near Huddersfield, under the style of Joseph Barden and Sons.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

BARKER, WILLIAM, Hucknall Torkard, and Linby, Nottinghamshire, lime burner.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

ending November 9th.

Acid—

100 pks. Beresford & Co.
203 A. & M.
Zimmermann

Holland, 10

50

H. Johnson & Sons
Phillipps & Graves

Acetone—

Holland, 1 pk.

1

A. & M.
Zimmermann
R. W. Greeff
& Co.

Alkali—

Belgium, 216 c. Arnati & Harrison

Alum—

Belgium, 24 pks. R. W. Greeff & Co.

Alumina Sulphate—

Holland, 30 pks. H. Wallace
& Co.

Anthracene—

Holland, 85 pks. Burt, Boulton & Co.

Antimony Ore—

Belgium, 36 t. H. R. Merton & Co.

France, 50

Smith Sundius & Co.

Arsenic—

Germany, 10 pks. L. & I. D. N. Co.

mac
o, 135 bgs. J. Kitchen Ld.
250 H. Rooke,
Son & Co.
1,600
1 bg. M. D. Frango-
pulo & Co.
100
475 Papayanni &
Jeremias
540 L. J. Vuzunaros
ork, 200 brls.
ork, 150
ork, 15 cs. Champion
& Co.
rp, 1 ble. 1 ck.
arg, 20 bgs.
elphia, 30 brls. Anglo-Am.
Oil Co.
19 cs. T. Robinson
& Son
61 crts. Richards,
Ward & Co.
Eng. & Am.
Mchny. Co.
ork, 40
one—
rp, 1 cs. 2 crts. J. T.
Fletcher & Co.
nese Ore—
ne, 985 t. Darwen &
Mostyn Iron Co.
an's, N'dd., 34 brls. 10 hf.-brls.
Job Brs.
n—
dam, 6 cks.
ha—
ork, 3,500 brls.
aux, 1 ck.
Acid—
dam, 9 cks.
elphia, 20 brls. Anglo-Am.
Oil Co., Ld.
hate—
eal 250 t.
hate Rock—
royal, S.C., 900 t.
i—
i, 68 brls.
urg, 131 cks.
e Stone—
rn, 20 bgs. 88 cs.
na, 80 28
a, 3,319 t. Matheson & Co.
eston, S.C., 2,107 brls.
urg, 190 t.
tre—
aux, 2 cks.
antinople, 1 bg.
orn, 550 bxs. Weaver &
Serry
n, 100
4 cs. T. White
4 Barclay & Son
tone—
aux, 100 bgs. G. G. Blackwell,
Son & Co.
erp, 1 cs.
York, 5 brls. 200 bgs.
erp, 198 cs. J. T. Fletcher
& Co.
rdam, 120
ine—
erp, 120 bgs. 2 cks.
ohn's, N'dd., 1 bx. J. J. Langley
rdam, 5 cs.
ur—
nia, 150 t. 740 bgs. 144 brls.
uric Acid—
burg, 1 btle.
w—
yres, 53 hf.-pps. 214 cks.
w—
aux, 2 cks.

Tartaric Acid—
Rotterdam, 13 cks.
Treacle—
Philadelphia, 950 brls.
Bordeaux, 8 cs.
Varnish—
Boston, 70 pkgs. 1 bdl. W. H.
Staynes & Smith
Waste Salt—
Antwerp, 100 bgs.
Hamburg, 656 cks. & qty. H.
Tyrer & Co.
White Lead—
Rotterdam, 38 cks.
Wood Pulp—
Rotterdam, 252 bls.
Zinc Oxide—
Antwerp, 180 brls.
Zinc White—
Paris, 20 brls. Sanitary
Paint Co.
Rotterdam, 85 cks.

MANCHESTER.

Week ending November 9th.

Acetic Acid—
Rotterdam, 35 blns.
Alumina Sulphate—
Rotterdam, 39 cks.
Aluminous Cake—
Rotterdam, 70 bgs.
Ammonium Acetate—
Rotterdam, 2 brls.
Aniline—
Rotterdam, 3 cks.
Antimony Oxalate—
Rotterdam, 4 cks.
Antimony Salt—
Rotterdam, 7 cks. 1 cs.
Barium Chloride—
Rotterdam, 5 cks.
Barytes—
Rotterdam, 3 cks. 200 bgs.
Bone Ash—
Rio Grande do Sul, 447 t.
Cadmium—
Hamburg, 1 cs.
Colours—
Antwerp, 1 ck. 10 cs.
Treport, 1
Rotterdam, 99 58 brls. 50
49 bxs.
Cottonseed Oil—
Rotterdam, 100 brls.
Dextrine—
Stettin, 100 bgs. A. Baumaun
& Co.
" 100 E. Jul. Aurret
" 50
Dyestuffs—
Alizarine
Rotterdam, 40 cks.
Extracts
Treport, 13 cks.
Rotterdam, 5
Indigo
Rotterdam, 2 cmts.
Shumac
Palermo, 1,325 bls. 50 bgs.
Valonia
Patras, 100 bgs.
Farina—
Hamburg, 40 bgs.
Stettin, 200 T. Ayland & Co.
" 300
Glucose—
Rotterdam, 4 cks.
Stettin, 1,000 bgs. Jul. F. Ohler
Glue—
Treport, 11 cks. 7 cs. 12 bls.
Stettin, 10 J. Kidson & Co.
Limestone—
Antwerp, 2 crts.
Mineral White—
Fiume, 200 bgs.
Ochre—
Treport, 36 cks.
Pitch—
Rotterdam, 46 brls.
Potash—
Hamburg, 88 cks.
Treport, 14 122 dms.
Rotterdam, 27 2

Saltpetre—
Rotterdam, 20 brls.
Soda—
Hamburg, 23 cks.
Sodium Nitrate—
Rotterdam, 20 cks.
Starch—
Antwerp, 212 cs.
Fiume, 200 bgs.
Rotterdam, 120
Stearine—
Antwerp, 7 bgs.
Rotterdam, 13 brls.
Sulphuric Acid—
Rotterdam, 10 cks.
Tartaric Acid—
Rotterdam, 29 cks. 20 kgs.
Waste Salt—
Hamburg, qty.
Wood Pulp—
Halifax, N.S., 6,992 bls.
Zinc Oxide—
Antwerp, 30 brls. 1 cs.
Rotterdam, 105
Zinc Sulphate—
Rotterdam, 7 cks.
Zinc White—
Rotterdam, 10 cks.

HULL.

Week ending November 9th.

Acetate—
New York, 267 bgs. Wilson,
Sons, & Co., Ld.
Acid—
Leghorn, 51 cks. Wilson,
Sons, & Co., Ld.
Albumen—
St. Petersburg, 60 cs. Wilson,
Sons, & Co., Ld.
Asbestos—
Riga, 200 bgs.
Genoa, 4 pks.
Barytes—
Rotterdam, 23 cks. Hutchinson
& Son
Bremen, 36 G. Holmes & Co.
Antwerp, 224 40 bgs. Bailey
& Leatham
Bone Meal—
Bombay, 4,876 bgs.
Borax—
Hamburg, 1 ck.
Camphor—
Hamburg, 73 pks. Wilson,
Sons, & Co., Ld.
Caoutchouc—
Hamburg, 1 cs. Veltmann & Co.
Castor Oil—
Leghorn, 16 cs. Wilson,
Sons, & Co., Ld.
" 2
Genoa, 70
Antwerp, 10 cks. Bailey &
Leatham
Chemicals (otherwise undescribed)
Dunkirk, 16 cks. 30 dms. Wilson,
Sons, & Co., Ld.
Rotterdam, 1 cs. Hutchinson
& Son
" 2 pks. W. & C. L.
Ringrose
Bremen, 2 Veltmann & Co.
New York, 100 dms. Wilson,
Sons, & Co., Ld.
Cod Oil—
Drontheim, 10 brls. Wilson,
Sons, & Co., Ld.
Christiansund, 135
Aalesund, 303
Bergen, 50
Colours—
Dunkirk, 16 cks.
Antwerp, 4
Stettin, 2 Wilson,
Sons, & Co., Ld.
Hamburg, 2
" 5 cs. G. Malcolm & Son
Rotterdam, 152 pks. W. & C. L.
Ringrose
Bremen, 1 cs. Veltmann & Co.
Antwerp, 12 cks.
" 15 pks. Wilson,
Sons, & Co., Ld.
Dextrine—
Stettin, 110 bgs. Wilson,
Sons, & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 5 brls. 111 pks. W. &
C. L. Ringrose
Argols
Bordeaux, 90 bgs.
Indigo
Kurrachee, 8 cs. Wilson,
Sons, & Co., Ld.
Wadder
Rotterdam, 2 cks. W. & C. L.
Ringrose
Myrabolams
Bombay, 5,517 bgs.
Farina—
Hamburg, 200 bgs. Wilson,
Sons, & Co., Ld.
Ghent, 138 cs. "
Stettin, 1,045
Harlingen, 100 "
Glucose—
Rotterdam, 40 bgs. Hutchinson & Son
Stettin, 14 cks.
New York, 250 525 brls.
Glue—
Rotterdam, 3 bkts. Hutchinson
& Son
Antwerp, 11 cks. 10 cs. Wilson,
Sons, & Co., Ld.
Rotterdam, 3 cs. W. & C. L.
Ringrose
Dunkirk, 6 cks. Wilson,
Sons, & Co., Ld.
" 65
Rouen, 15 20 cs. 9 bls.
Rawson & Robinson
Kaolin—
Rotterdam, 119 bgs. Hutchinson
& Son
Lead Acetate—
Rotterdam, 7 cks.
Manure—
Ghent, 50 t. Wilson,
Sons, & Co., Ld.
Mica—
Christiania, 1 cs. Wilson,
Sons, & Co., Ld.
Ochre—
Rouen, 78 cks.
Marseilles, 78
Paint—
New York, 64 cs. Wilson,
Sons, & Co., Ld.
Phosphorus—
New York, 10 cs. Wilson,
Sons, & Co., Ld.
Pitch—
St. Petersburg, 85 cks.
Plumbago—
Hamburg, 12 cks. Lawr. nce & Son
" 2
Genoa, 150 bgs. Wilson,
Sons, & Co., Ld.
Potash—
Antwerp, 20 cks. Wilson,
Sons, & Co., Ld.
Rotterdam, 22 Hutchinson & Son
" 500 bgs. Wilson,
Sons, & Co., Ld.
Pumice Stone—
Leghorn, 70 pks. Wilson,
Sons, & Co., Ld.
" 7 bls.
Pyrates—
Huelva, 1,071 t.
Saltpetre—
Antwerp, 140 bgs. Wilson,
Sons, & Co., Ld.
Hamburg, 5 cks. Lofthouse &
Saltmer
" 10 kgs. Wilson,
Sons, & Co., Ld.
Soap—
Marseilles, 5 dms.
Sodium Nitrate—
Hamburg, 125 pks. 208 bgs.
Wilson, Sons, & Co., Ld.
Starch—
Bremen, 1,486 cs. Veltmann & Co.
Antwerp, 80 Bailey & Leatham
Stearine—
Antwerp, 25 bgs. 5 pks.
Wilson, Sons, & Co., Ld.
Hamburg, 3 pks.
Christiania, 9 brls.
Bordeaux, 51 bgs. Rawson &
Robinson
Talc—
Marseilles, 50 bgs.
Tallow—
New York, 80 trcs. Wilson,
Sons, & Co., Ld.

Tar — Stockholm, 10 brls. Wilson, Sons, & Co., Ltd.	
Tartaric Acid — Rotterdam, 15 cks. Hutchinson & Son	
Treacle — Boston, 1,155 brls. Wilson, Sons, & Co., Ltd.	
Turpentine — New York, 289 brls. " "	
Brunswick, 3,361 brls. G & J. Rawstorn, Ltd.	
Ultramarine — Rotterdam, 8 cks. Hutchinson & Son	
" 4 W & C. L. Ringrose	
Waste Salt — Hamburg, qty. Bailey & Leatham	
" 564 bgs. Furley & Son	
White Lead — Amsterdam, 35 cks. J. Good & Sons	
Rotterdam, 110 W. & C. L. Ringrose	
Wood Pulp — Hamburg, 1 bl. Bailey & Leatham	
Norwegian, 60	
Zinc Oxide — Rotterdam, 25 cks. W. & C. L. Ringrose	
Antwerp, 5 Bailey & Leatham	
Zinc White — Rotterdam, 5 cks. W. & C. L. Ringrose	

GLASGOW.

Week ending November 14th.

Acetic Acid — Rotterdam, 24 cks. J. Rankine & Son	
Aniline — Rotterdam, 8 cks. 10 cs. J. Rankine & Son	
Antimony Sulphite — Hamburg, 1 ck.	
Arachide Oil — Rotterdam, 10 cks. J. Rankine & Son	
Asbestos — Quebec, 400 bgs.	
Montreal, 260	
Barium Sulphate — Antwerp, 18 cks. 400 bgs.	
Barytes — Rotterdam, 52 cks. J. Rankine & Son	
" 87 pkgs.	
Castor Oil — Antwerp, 15 cks.	
Tuticorin, 60	

Chemicals (otherwise undescribed)
Rotterdam, 8 cs. J. Rankine
& SonDyestuffs—
Allsarine
Rotterdam, 43 cks. 1 cs. J. Rankine
& Son

" 25 pkgs.

Farina—
Hamburg, 1,000 bgs.

Antwerp, 3

Glue—
Rotterdam, 10 bxs. J. Rankine
& SonLead Acetate—
Hamburg, 29 cks.Painters' Colours—
Antwerp, 2 cks.

Rotterdam, 50 pkgs.

Hamburg, 8 3 cs.

Pitch—
Amsterdam, 14 cks.Potash—
Rotterdam, 12 cks. J. Rankine
& SonPyrites—
Huelva, 1,504 t. Tharsis Co.Saltpetre—
Hamburg, 3 cks. 30 kgs.Sodium stannate—
Hamburg, 2 cks.Starch—
Amsterdam, 80 bxs.

Ghent, 38 cs.

Rotterdam, 29 J. Rankine & Son

Stearine—
Rotterdam, 17 cs. J. Rankine & SonTartar Emetic—
Hamburg, 1 ck.Treacle—
Philadelphia, 500 brls. Waddell &
Bryson

" 1,000

Ultramarine—
Rotterdam, 10 cs. J. Rankine
& SonVermillion—
Antwerp, 1 cs.Waste Salt—
Hamburg, 50 bgs.White Lead—
Rotterdam, 22 cks. J. Rankine
& Son

Antwerp, 5

Wood Pulp—
Hamburg, 1,250 bls.

Gefle, 2,896 H. Fischer & Co.

Christiania, 390

Zinc White—
Rotterdam, 185 cks. J. Rankine
& Son**TYNE.**

Week ending November 9th.

Alum Earth—
Hamburg, 131 cks. Tyne S. S. Co.Asbestos—
Hamburg, 24 bls. Tyne S. S. Co.Barium Chloride—
Hamburg, 197 bgs. Tyne S. S. Co.Barytes—
Rotterdam, 542 bgs. Tyne S. S. Co.

Antwerp, 200 33 cks. "

Boracic Acid—
Aarhus, 1 cs.Cod Oil—
Trondhjem, 10 brls.Colours—
Rotterdam, 2 cks. 1 bx. Tyne
S. S. Co.

Antwerp, 5 brls. "

Glue—
Rotterdam, 4 cks. Tyne S. S. Co.Philadelphia, 10 brls. Anglo-American
Oil Co.

Antwerp, 6 brls. Tyne S. S. Co.

Lead Nitrate—
Rotterdam, 7 cks. Tyne S. S. Co.Limestone—
Antwerp, 1 cs. Tyne S. S. Co.Ochre—
Rouen, 677 cks. W. Young
& Co.Paint—
Philadelphia, 14 brls. Anglo-American
Oil Co.Saltpetre—
Hamburg, 3 cks. Tyne S. S. Co.Starch—
Rotterdam, 112 cs. Tyne S. S. Co.

Antwerp, 80 bxs. "

Sulphur Ore—
Huelva, 49½ t.White Lead—
Antwerp, 11 cks. Tyne S. S. Co.Wood Pulp—
Christiania, 160 bls.Zinc White—
Rotterdam, 5 cks. Tyne S. S. Co.**GOOLE.**

Week ending November 6th.

Alkali—
Calais, 5 cks.Alum—
Rotterdam, 30 bgs.Antimony—
Boulogne, 2 cks.Barytes—
Antwerp, 200 bgs.Caoutchouc—
Boulogne, 10 cks.

Hamburg, 1 cs.

Colours—
Hamburg, 11 cks. 20 cs.Dyestuffs—
Allsarine
Rotterdam, 105 cks. 1 cs.Logwood
Hamburg, 100 t.

Rouen, 65

Belize, 354

Jamaica, 799

Dyestuffs (otherwise undescribed)
Rotterdam, 231 cks. 66 cs.

Boulogne, 22 25 pkgs. 5

Farina—
Hamburg, 1,360 bgs.

Delfsryhl, 1,550

Glue—
Rouen, 20 bgs.Lead Acetate—
Hamburg, 23 cks.Potash—
Rotterdam, 18 cks.

Hamburg, 22

Calais, 10

Rosin—
Savannah, 4,005 cks.Saltpetre—
Rotterdam, 100 bgs. 2 ck.

Antwerp, 85

Sodium Silicate—
Rotterdam, 4 cks.Tartar—
Rotterdam, 15 cks.Waste Salt—
Hamburg, 500 bgs.**GRIMSBY.**

Week ending November 9th.

Caoutchouc—
Hamburg, 9 cs.Chemicals (otherwise undescribed)
Hamburg, 23 cks.Colours—
Hamburg, 23 cks. 2 cs.

Antwerp, 32 pkgs.

Dyes—
Rotterdam, 8 cks.

Antwerp, 8 40 cs. 5 pkgs.

Farina—
Hamburg, 200 bgs.Starch—
Antwerp, 80 cs.**EXPORTS OF CHEMICAL PRODUCTS**

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.**LONDON.**

Week ending November 13th.

Acids — Amoy, 5 cs. £12	
Natal, 60 111	
Operto, 4 pkgs. 11	
Alkali — Christchurch, 3 t. 14 c. £16	
Algoa Bay, 5 7 14	
Lyttelton, 5 4 21	
Ammonia (Liquid) — Sydney, 2 t. 4 c. £60	
Ammonium Carbonate — Yokohama, 4 t. £126	
Paris, 10 cks. 63	
Melbourne, 6 c. 21	
Santos, 19 30	
Ammonium Sulphate — Philadelphia, 105 t. £952	
Dunkirk, 100 18 c. 930	
Arsenic — Yokohama, 1 t. £49	
Bisulphite of Lime — Melbourne, 3 t. £15	
Calcutta, 1 t. 1 c. 15	

Borax — Auckland, 10 c. £11	
Calcium Chloride — Cadiz, 2 t. 4 c. £10	
Melbourne, 10 40	
Calcium Phosphide — Calcutta, 1 cs. £11	
Caustic Soda — Otago, 480 lbs. £6	
Melbourne, 2 t. 15 c. 55	
Christchurch, 8 2 60	
Lyttelton, 5 2 38	
Philadelphia, 145 1,132	
Natal, 2 12 90	
E. London, 10 11	
Chemicals (otherwise under.) — Natal, 9 cks. 11 c. 6 cs. £45	
Bombay, 13 20	
Antwerp, 4 13	
Shanghai, 5 kgs. 16 77	
Cape Town, 7 3 29	
Citric Acid — Melbourne, 5 c. £38	
Rotterdam, 5 kgs. 2 cks. 98	
Brussels, 6 95	
St. Petersburg, 3 t. 5 475	
Lisbon, 1 2 68	

Antwerp, 1 4 261	
Coal Products — Benzol Rotterdam, 25 cks. £50	
Carbolic Acid Sydney, 20 pkgs. £26	
Shanghai, 4 cs. 40 drs. 32	
Coal Tar Dyes Christchurch, 7 pkgs. £96	
Boston, 14 174	
Cette, 3,295 t. £5,619	
Boston, 1,003 601	
Dunkirk, 200 400	
Rio de Janeiro, 40 cks. 15	
New York, 418 230	
Marseilles, 235 411	
Terneuzen, 250 435	
Antwerp, 800 1,560	
St. Nazaire, 960 1,824	
Philadelphia, 1,559 661	
Pyridine Bases Malmo, 6 runs. £35	
Tar Natal, 390 drs. £76	
Algoa Bay, 620 52	
Boston, 350 cks. 210	
Tar Oil Philadelphia, 1,000 cks. £688	

Tar and Pitch Shanghai, 60 brls.	
Copper Sulphate — Dunedin, 2 t. 20 c.	
Cette, 100 5 12	
Fremantle, 5 12	
Rouen, 10	
Cream of Tartar — Yokohama, 20 c.	
Sydney, 1 t. 2	
Perth, 2 2	
Auckland, 1 1	
Lyttelton, 1 1	
Melbourne, 2 10	
Invercargill, 10	
Disinfectants — Sydney, 2 c. 12 kgs.	
Bombay, 65 drs. 23 kgs.	
Cape Town, 100 20 kgs.	
Mombassa, 13	
Christchurch, 287 pkgs.	
Shanghai, 3	
Natal, 21	
Rio de Janeiro, 8 cs.	
Auckland, 3	
E. London, 10 drs. 20 kgs.	

Ammonia (Liquid)— Malta, 9 c. £30 Ammonium Carbonate— Montreal, 3 t. 6 c. £112 Toronto, 1 5 45 Riga, 1 5 74 Yokohama, 2 5 74 Ammonium Chloride— Genoa, 1 l. 10 c. £37 Ancona, 1 10 19 Bombay, 8 5 294 Smyrna, 12 21 Ammonium Sulphate— Philadelphia, 25 t. 8 c. 3 q. £249 Las Palmas, 10 3 2 95 Valencia, 25 5 3 227 Barcelona, 2 17 1 220 Genoa, 10 16 2 95 Hamburg, 10 4 95 Teneriffe, 5 48 Demerara, 63 16 616 Lisbon, 10 6 95 Gd. Canary, 15 145 Antimony— Bombay, 4 cks. 6 c. Asbestos— Iquique, 2 cs. Iquitos, 1 22 ane, 1 22 lo, 3 14 c. 77 Bleaching Powder— Baltimore, 148 cks. Boston, 423 166 cs. Calcutta, 40 bks. Cape Town, 83 40 bks. Genoa, 30 40 bks. Leghorn, 30 Lisbon, 30 Montreal, 65 Naples, 30 Newport News, 52 New York, 321 25 70 Philadelphia, 302 Boracic Acid— Adelaide, 10 c. £16 Montreal, 1 12 1 q. 52 Yokohama, 2 10 78 Borax— St. Nazaire, 10 c. £13 Brisbane, 11 10 Genoa, 3 t. 18 3 q. 79 Alicante, 17 3 3 345 Rotterdam, 10 7 207 Stettin, 1 2 3 23 Ghent, 9 19 199 Algoa Bay, 2 10 53 Barcelona, 5 5 105 Patras, 4 4 Calcium Chloride— Boston, 50 t. 1 c. £101 Caoutchouc— St. John's, Nfld., 1 trs. Carbolic Acid— Oporto, 13 c. 2 q. £19 Penang, 13 1 8 Calcutta, 3 4 18 Hamburg, 3 t. 15 63 New York, 4 2 2 200 Hong Kong, 7 13 Baltimore, 1 57 Carbon Bisulphide— Ceara, 4 c. 3 q. £7 Caustic Potash— New York, 9 t. 8 c. £227 Caustic Soda— Alexandria, 10 dms. Barcelona, 40 20 brls. Bari, 45 Bilbao, 30 Bombay, 235 Brisbane, 8 Ceara, 30 Corfu, 30 Corral, 20 Corunna, 20 Demerara, 10 Fairwater, 160 Fiume, 30 Galatz, 53 Genoa, 240 Hamburg, 37 Hong Kong, 42 3 cks. Ibrail, 42 Leghorn, 56 Lisbon, 45 Malaga, 30 Malta, 11 Maranham, 15 Marseilles, 85 Melbourne, 24 cks. 3 41 pkgs. Messina, 8 Montreal, 690 Nagasaki, 100 Naples, 55 New York, 567 100 brls. 42 bks. Odessa, 345 Oporto, 60 Palermo, 15 Parnahyba, 5 Philadelphia, 400 Rangoon, 25 Riga, 100 Rio de Janeiro, 18 St. John's, Nfld., 35 Seville, 75 Stettin, 25 Tampico, 190 Valencia, 25 Vera Cruz, 30 Chemicals (otherwise undescribed) Calcutta, 3 t. 15 c. £140 Genoa, 7 12 520 New York, 18 1 2 q. 946 Boston, 5 352 Montreal, 26 18 3 119 Philadelphia, 12 19 425 China Clay— Baltimore, 15 t. Boston, 1,573 Calcutta, 50 Colombo, 2 2 c. Maranham, 5 Messina, 3 10 Montreal, 68 Philadelphia, 300 cks. Singapore, 2 cs. Vera Cruz, 100 Chromic Acid— Hamburg, 12 c. £38 Chromium Acetate— Vera Cruz, 19 c. 3 q. £27 Citrochloric Acid— Calcutta, 6 c. £24 Coal Products— Alizarine New York, 5 cks. Aniline Colours Barcelona, 3 q. 2 kgs. Montreal, 2 cks. 2 Aniline Oil Barcelona, 36 cs. Philadelphia, 15 dms. Aniline Oil and Salts Lisbon, 2 cks. 1 tin Aniline Salts Barcelona, 15 cks. Boston, 37 67 cs. Montreal, 32 bks. Naphthol Colours New York, 19 cks. Tar Dubreka, 49 brls. Galatz, 40 Sierra Leone, 20 hf.-brls. Sourabaya, 26 Tarj Salts Boston, 6 cks. Cod Oil— Halifax, 5 brls. Copperas— Smyrna, 6 t. 13 c. £14 Aleppo, 4 13 10 Callao, 3 15 1 q. 12 Copper Sulphate— Savanilla, 12 c. 1 q. £10 Gothenburg, 1 t. 2 2 17 Brindisi, 6 6 2 98 Bari, 9 17 2 152 Bordeaux, 25 2 3 402 Lisbon, 2 2 32 Alexandretta, 6 1 5 Montreal, 5 2 83 Mollendo, 3 cs. 6 Valparaiso, 1 6 3 22 Philadelphia, 10 13 173 Naples, 9 11 154 Pireus, 5 5 Marseilles, 40 9 2 630 Paris, 24 14 404 Odessa, 15 3 234 Calcutta, 10 166 Ancona, 10 6 1 158 Riga, 6 12 2 98 Melbourne, 10 1 173 Cette, 109 1 1,725 Seville, 5 1 80 Hamburg, 1 9 2 25 Ibrail, 1 17 Cream of Tartar— St. John's, Nfld., 1 c. £65 Disinfectants— Korachee, 2 t. 16 c. £18 Calcutta, 5 12 Bombay, 3 13 28 Dried Blood— Las Palmas, 2 t. £16 Farina— Montreal, 11 cks. Gelatine— Baltimore, 75 bks. Boston, 150 Glue— Corunna, 10 bgs. St. John's, 3 Guano— Tarragona, 20 t. £168 Gypsum— Oporto, 10 t. 1 c. 3 q. £25 Iron Oxide— Ghent, 2 t. 4 c. £20 Montreal, 2 13 Marseilles, 10 35 Santander, 2 5 5 10 Naples, 7 8 3 47 Lime— Iquitos, 9 t. 10 c. £21 Dubreka, 26 25 Demerara, 40 Litharge— Montreal, 4 cks. Santander, 2 brls. Magnesia— Havre, 93 cs. Magnesium Carbonate— Santander, 1 t. £24 Magnesium Chloride— Bombay, 6 t. 9 c. £26 Manganese Sulphate— New York, 1 t. £25 Vera Cruz, 12 brls. Manganese— New York, 5 cks. Manganese Ore— New York, 7 cks. Manure— Cadiz, 1 t. £6 New York, 6 2 c. 2 q. 62 Las Palmas, 5 36 Metallic Sodium— Rotterdam, 3 t. £590 Nitric Acid— Vera Cruz, 4 c. £6 Ochre— Algoa Bay, 40 kgs. Paint— Alexandria, 15 cks. 55 kgs. Amsterdam, 5 brls. Bahia, 5 cs. 3 30 Barranquilla, 2 43 Bathurst, 1 Constantinople, 59 Dakar, 2 Dubreka, 58 Fuenaventura, 40 2 2 pkgs. Genoa, 6 6 Gibraltar, 12 dms. Gd. Bassam, 2 pkgs. Havana, 10 Humacao, 45 Lagos, 5 cs. 45 La Libertad, 5 cs. 3 dms. Lisbon, 14 Loango, 32 Maceio, 35 Maracaibo, 1 Maranham, 4 Mollendo, 2 Paita, 2 Porto Plato, 4 Rosario, 1 35 Sagua la Grande, 1 Sierra Leone, 100 Valparaiso, 229 20 Venice, 4 Painters' Colours— Alexandria, 25 cks. Baltimore, 24 Barcelona, 12 Bombay, 23 cs. B. Ayres, 45 brls. Calcutta, 5 E. London, 47 Forcados, 12 kgs. Galatz, 300 Ghent, 9 Halifax, 11 Hamburg, 150 bgs. Havana, 5 tcs. 4	Phosphite of Lime— Philadelphia, 10 c. £185 Phosphoric Acid— Al, 32 t. 14 c. £140 on, 14 4 90 Phosphorus— ty, 20 carboys £40 Silicium Binoxalate— ort, 3 t. £150 Silicium Chlorate— n, 10 c. £21 ay, 9 22 York, 5 t. 8 200 Silicium Cyanide— ourne, 20 cs. 3 c. £25 goa Bay, 20 cs. 149 pore, 5 45 Silicium Oxalate— ort, 2 t. £100 Sulphate— ort, 41 t. £760 ourne, 2 46 tion, 1 24 ane, 1 22 lo, 3 14 c. 77 Dip— ondon, 4 t. 9 c. £150 os, 33 cks. 93 cs. 414 ulian, 15 100 Cruz, 29 304 urne, 30 drs. 16 Town, 100 cs. 193 fin, 5 7 215 rton, 25 50 church, 65 130 nds, 45 pks. 4 20 drs. 580 ks. 1 19 1,100 325 Bay, 6 1 204 es, 142 14 7,326 leo, 2 6 60 Sulphur— bo, 1 t. 8 c. £12 Bay, 10 Sulphuric Acid— ad, 30 t. £128 dam, 2 13 c. 19 Sulphuric Acid— ar, 9 t. 6 c. £15 5 13 100 Sulphuric Acid— y, 10 cs. £133 Bicarbonate— ar, 11 c. £10 re, 1 t. 10 11 id, 10 13 Sulphate— 250 t. £250 ay, £35 ay, 25 cs. 19 ay, 1 t. 2 c. 50 kgs. 37 Sulphuric Acid— re, 2 t. 10 c. £24 10 cs. 15 i, 1 10 13 y, 1 9 20 Sulphate— 1 t. 12 c. £22 Sulphuric Acid— na, 15 c. £120 1 t. 101 1 5 123 ne, 3 5 387 LIVERPOOL. ending November 13th. k, 1 t. 18 c. £184 5, 10 45 20 cks. 1 t. 9 c. £8 1 10 1 q. 7 1 5 6 3 2 15 4 17 23 4 2 3 25 8 10 Sulphate— 14 t. 19 c. £67
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Iquique, 134 cs.	53	2
Jaffa, 7	3	
Lisbon, 2 pkgs.	18	
Manaos, 51 cks.	12 frks.	
Marcellis, 28 pkgs.		
M. Video, 104	1 ck.	
Montreal, 12	5	
New York, 223	471 brls.	
Odessa, 8		
Oporto, 20	10	40
Para, 2	94	4
111 dms.		5 tcs.
Paris, 8		
Pernambuco, 2	10	
Rio de Janeiro, 2		
Rosario, 2		
Rott'rd m, 80 bgs. 10		
St. Nazaire, 2	100	
Santos, 2		
Shanghai, 80 dms.		
Sierra Leone, 72		
Sourabaya, 6		
Stettin, 50 bgs.		
Valparaiso, 2,248 cs.	50	40
Yokohama, 13		

Paraffin Wax—

Bari, 20 bgs.	
Boston, 30 cs.	
Odessa, 10	
Oporto, 4	
Pernambuco, 10	
Piræus, 40	
Rio de Janeiro, 1	

Phosphorus—

B. Ayres, 1 t.	1 q.	£154
Hio, 4		990
Yokohama, 10 c.		125
Trinidad, 2		20
Ascension, 5		55
Tampico, 5		55

Plumbago—

Mollendo, 5 cks.	
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Potassium Bichromate—

Piræus, 2 t.	7 c.	3 q.	£98
Aleppo, 1	8	3	60
Rio de Janeiro, 1	19		42
Vera Cruz, 1	1	3	50
B. Ayres, 1	3		49

Potassium Chlorate—

Ascension, 10 c.		£20
Calcutta, 10		24
Bari, 1 t.	6	60
Vera Cruz, 10		10
Gothenburg, 6		268
Havana, 10		20
Antwerp, 1	10	67
Genoa, 1		47
New York, 13	9	524
Shanghai, 9	18	198
Hio, 41	5	1,599
Yokohama, 5		200

Potassium Prussiate—

Yokohama, 10 c.		£40
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Potassium Sulphate—

New York, 1 t.	18 c.	3 q.	£34
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Salt—

Accra, 7 t.	
Algoa Bay, 8	
Antwerp, 515	
Bahia, 18	
Bakana, 22	
Baltimore, 581	
Barbadoes, 50	
Batanga, 5	
Benin, 10	
Bombay, 100	
Boston, 525	
B. Ayres, 99	11 c.
Cameroon, 40	
Cape Lahou, 12	10
Coquimb, 100	
Flensburg, 40	
Galveston, 2,377	4
Ghent, 300	
Gd. Lahou, 1	10
Iquitos, 15	
Lagos, 40	
Landana, 7	8
Loango, 8	
Mandiji, 22	10
Manaos, 30	7
Matadi, 21	5
Mobile, 1,000	
Montreal, 837	10
N. Orleans, 1,250	
New York, 102	3
N'Kombi, 0	
Old Calabar, 484	
Opobo, 75	
Pelotas, 35	10
Philadelphia, 45	
Portland, Or., 901	
Rangoon, 1,032	
Rio de Janeiro, 200	cks.
Rio Pongo, 400	
Rotterdam, 777	

St John's, 5	
San Francisco, 89	6
Santos, 50	
Savannah, 1,150	
Sierra Leone, 105	
Tocopilla, 5	
Trinidad, 1	
Valparaiso, 254	14

Salt and Soda—

Malta, 7 t.	
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Salt Cake—

Boston, 20 t.	1 c.	1 q.	£35
Baltimore, 65	4		84
Antwerp, 50	19		54

Saltpetre—

Pimental, 6 c.		£7
Carthagena, N. G., 2 t.	15	78
Pernambuco, 2	17	1 q.
Para, 1		24

Sheep Dip—

B. Ayres, 45 t.	1 c.	1 q.	£1,490
M. Video, 2	4		50

Soap—

Accra, 220 bxs.	
Aden, 100	
Alexandria, 111	
Algoa Bay, 2,005	125 cs.
Amsterdam, 500	
Antwerp, 10	
Bakana, 1,000	
Barbadoes, 305	
Bombay, 2,410	
Boston, 2,000	
Buguma, 50	
Cabenda, 20	
Calcutta, 70	
C. C. Castle, 90	
Cape Lahou, 15	
Cape Town, 1,151	50
Chama, 50	
Colombo, 9	
Conakry, 80	
Delagoa Bay, 948	3 bds.
Dubreka, 240	
E. London, 332	8
Gibraltar, 76	20
Gd. Bassa, 10	
Hamburg, 2,440	
Havre, 25	
Hong Kong, 601	
Iquique, 1	
Kingston, Ja, 2,160	
Lagos, 86	
Las Palmas, 859	
Macassar, 500	
Madeira, 13	
Madras, 7	
Malta, 35	
Manaos, 550	
Maranham, 50	
M. Video, 21	
Montreal, 1,200	
Mossel Bay, 50	
N. Orleans, 50	
N. York, 3 cks. 255	2,116
Parnahyba, 330	
Patras, 45	
Philadelphia, 20 brls.	
Pt. Elizabeth, 2,290	
Portland, 1	
Pt. Natal, 2,041	4
Pt. Said, 20	
Quebec, 1	
Rangoon, 13 bds. 6	
Rotterdam, 300	
S. John's, N'fd., 265	
St. Thomas, 610	
Salt Pond, 212	
Savanilla, 12	
Shanghai, 8,507	
Sierra Leone, 310	
Singapore, 2,226	45
Teneriffe, 599	
Valparaiso, 15	
Warri, 100	

Soda Alkali—

Lisbon, 60 brls.	
Odessa, 150	
Smyrna, 50	
Victoria, B. C., 50	

Soda Ash—

Antwerp, 100 bgs.	
Baltimore, 4,342	405 cks. 153 tcs.
Boston, 430	367 147
Brisbane, 592	
B. Ayres, 225	220 brls.
Calcutta, 137	
Callao, 15	
Ceara, 20	
Copenhagen, 270	
Gothenburg, 50	48
Hio, 206	
Lisbon, 39	
Maranham, 10	
M. Video, 50	
Montreal, 570	10 tcs.

New York, 7,590	182
Parnahyba, 10 bls.	
Philadelphia, 2,888 bgs.	54 347
Rio de Janeiro, 56	25 brls.
Rotterdam, 605	
Singapore, 5	
Valparaiso, 250	

Soda Crystals—

Batavia, 50 cks.	
Boston, 360	56 brls. 150 bgs.
Demerara, 20	
Halifax, 90 kgs.	
Malta, 100	
Montreal, 205	1,365
New York, 250	100
Pernambuco, 20	
Philadelphia, 100	374
Quebec, 20	
Sourabaya, 10	

Sodium Arsenate—

Lisbon, 2 cks.	
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Sodium Bicarbonate—

Algoa Bay, 60 kgs.	
Amsterdam, 4 cks.	
Ancona, 20	2
Antwerp, 90	1
Baltimore, 1,200	290
Bari, 30	
Batoum, 60	
Bilbao, 50	
Bombay, 959	
Brisbane, 550	
B. Ayres, 50	25 25 brls.
Calcutta, 850	5
Cape Town, 5	
Colombo, 10 bgs.	
Copenhagen, 30	9
Galatz, 60	
Genoa, 15	27
Halifax, 570	
Havana, 20	
Hio, 700	
Ibrail, 100	
Kingston Jam., 30	
Kurachee, 550	
Lisbon, 40	
Malta, 50	
Marselles, 125	
M. Video, 20	6
Montreal, 2,065	115
Naples, 30	
N. Orleans, 450	100
New York, 450	18
Rosario, 38	
Rotterdam, 10	
Singapore, 25	
Trinidad, 40	
Valencia, 100	
Valparaiso, 20	5 brls.
Varna, 500	
Yokohama, 500	

Sodium Carbonate—

Hamburg, 20 kgs.	
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Sodium Chlorate—

Boston, 100 kgs.	
Genoa, 20	
Hamburg, 2	4 cks.
Santos, 2	

Sodium Silicate—

Brisbane, 4 dms.	
Galatz, 70 bgs.	
Maranham, 5 cks.	
Melbourne, 9	44
Oporto, 16	
Piræus, 10 brls.	48
Pt. Elizabeth, 100	
San Sebastian, 150	50
Smyrna, 25	
Tampico, 20	
Yokohama, 7	

Sodium Sulphate—

Bari, 14 cks.	
Patras, 20 cs.	
St. John's, 18	

Strontia—

Rotterdam, 1 t.	£10
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Sulphur—

New York, 90 kgs.	£18
E. London, 3 t.	12 c.
Montreal, 40	1
Boston, 300	0
Pernambuco, 1	18 3 q.
San Francisco, 23	158

Superphosphate—

Las Palmas, 2 t.	10 c.	£11
Nantes, 74	6	155
Madeira, 5		30
Gd. Canary, 4		17

Treacle—

Amsterdam, 25 brls.	
Antwerp, 10	55 hf.-pns.
Copenhagen, 5	

Ghent, 30	
Gothenburg, 135	411
Hamburg, 10	20
Malmö, 50	30
Rotterdam, 50	30
St. John's, N'fd., 5	30
Terneuzen, 5	30

Turpentine—

Alexandria, 3 cks.	
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Varnish—

Cartagena, Sp., 2 cks.	1 cs.
Corfu, 6	3
Genoa, 6	1
Loanda, 5 dms.	
Malta, 20	
Para, 30	
Rosario, 6	
San Sebastian, 6	
Seville, 36	
Valparaiso, 36	

White Lead—

Pt. Said, 10 kgs.	
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Wood Spirit—

Calcutta, 20 dms.	
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Zinc Chloride—

Oporto, 2 t.	10 c.
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Zinc Sulphate—

Montreal, 1 t.	7 c.
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MANCHESTER

Week ending November 1

Alkali—

Treport, 8 cks.	38
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Aniline Colours—

Rotterdam, 1 ck.	
Bombay, 1	

Anthracene—

Rotterdam, 71 cks.	
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Carbolic Acid—

Rotterdam, 80 cks.	
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Caustic Soda—

Bombay, 60 dms.	
Jaffa, 15	

Chemicals (otherwise under-

Alexandria, 50 brls.	
Hamburg, 9 cks.	
Tunis, 7	
Alexandretta, 30 kgs.	
Beyrout, 2	
Bombay, 50 bgs.	
Tripoli, Syria, 2	

Coal Tar Products (otherwise

Hamburg, 5 kgs.	
Rotterdam, 6 dms.	
Treport, 20	187 cks. 11
Antwerp, 7	10 21

Copperas—

Alexandria, 47 brls.	
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Dried Blood—

Hamburg, 5 cks.	
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Dyestuffs (otherwise under-

Rotterdam, 1 brl.	
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Extracts—

Rouen, 33 cks.	
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Glue—

Rotterdam, 10 cks.	
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Linseed Oil—

Tunis, 5 brls.	
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Logwood—

Alexandria, 67 bgs.	
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Paint—

Antwerp, 50 kgs.	
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Painters' Colours—

Hamburg, 1 ck.	
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Paraffin Wax—

Jaffa, 13 cs.	
Larnaca, 3 bgs.	

Pitch—

Ghent, 303 t.	
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Soda Alkali—

Sfax, 15 brls.	
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HULL.

Week ending November 9

Alkali—

Riga, 4 cks.</

ium Sulphate—	
rk,	250 bgs.
no,	300
dam,	100
dam,	500
dam,	45 cks.
ing Powder—	
	16 cks.
	25 kgs.
	20 kgs.
ic Acid—	
ork,	55 cks.
c Soda—	
	2 cks.
	25 dms.
gfors,	2
	155 pks.
	5 cs.
als (otherwise undescribed)	
rdam,	16 pks.
rp,	26 cs.
	2 cks.
	15
	14
	6
	2
	5 dms.
	1
	1 cs.
	20
	51
	120
	24
	5
	5
	26
	61
	20
	1
	110
	2
	2
	10
	42
	4
seed Oil—	
rp,	311 c.
	70
	51
	192
	2,241
	955
	802
iffs—	
osote	
ork,	500 cks.
wood	
	156 bgs.
ffa (otherwise undescribed)	
ania,	37 bgs.
	7 pks.
	60
d Oil—	
rdam,	299 c.
ania,	123
hagen,	39
iansund,	17
ger,	23
heim,	62
	128
e—	
aux,	150 bgs.
l White—	
	30 bgs.
haline—	
	135 bgs.
	30 cks.
gfors,	4 cs.
rs' Colours—	
rp,	6 cks.
rdam,	20
ania,	34
hagen,	1
nborg,	13
gfors,	1
	6
urg,	57
ork,	7
rdam,	22
	1
	88
	2 dms.
	6
	4
	53
	5
horus—	
nborg,	5 cs.
	25
rp,	385 t.
rk,	21 pks.
ork,	134
	150 cks.

Slag—	
Helsingfors,	508 bgs.
Harburg,	801 t.
Soap—	
Bergen,	9 bxs.
Christiania,	1 cs.
Starch—	
Copenhagen,	100 pks.
Tallow—	
Gothenburg,	11 cks.
Wasa,	89
Tar—	
Copenhagen,	10 cks.
Hango,	1
Rotterdam,	6
Stettin,	7
Terra Alba—	
New York,	500 cks.
Treacle—	
Copenhagen,	10 cks.
Turpentine—	
Helsingfors,	30 cks.
Varnish—	
Copenhagen,	1 brl.
Gothenburg,	1 cs.
Hamburg,	1
Rotterdam,	1
Stettin,	13 cks.
Stockholm,	2
	3 bxs.

GLASGOW.

Week ending November 14th.

Ammonium Sulphate—	
Demerara,	15 t.
Genoa,	101
Leghorn,	9
Hamburg,	50
Sydney,	56 t.
Borax—	
Sydney,	1 t.
Caustic Soda—	
Canada,	8 t.
Coal Products—	
Creosote	
France,	225 t.
Creosote Oil	
Christiania,	1
Naphtha	
France,	4 t.
Pitch	
Calcutta,	190
Naples,	112
U.S.A.,	
Amsterdam,	250 t.
Rotterdam,	472
Venice,	547 t.
Tar	
Calcutta,	175
Canada,	150
Colombo,	92
Madras,	85
Christiania,	70 brls.
Danzig,	260
Riga,	25 t.
Coal Tar Products (otherwise un-	
described)	
Rotterdam,	7 t.
Dried Blood—	
Bordeaux,	5 t.
Dyestuffs—	
Extracts	
Canada,	2,056
Logwood	
Paris,	44
Glucose—	
Cape Town,	14 t.
Guano—	
Penang,	5 t.
Iodine—	
Rotterdam,	6305
Lead Nitrate—	
Canada,	8 t.
Linseed Oil—	
Canada,	15 t.
E. London,	1
Egypt,	9
Malta,	4
Shanghai,	13
Sydney,	10
Litharge—	
Amsterdam,	434
Magnesium Sulphate—	
Sydney,	12 t.
Manganese—	
Genoa,	1 t.
Fiume,	12

Manure—	
Genoa,	108 t.
Penang,	5
Oxalic Acid—	
Rotterdam,	683
Paint—	
Singapore,	6157
Algoa Bay,	40
Shanghai,	227
Sydney,	67
Yokohama,	25
Painters' Colours—	
Calcutta,	684
Bangkok,	62
Hong Kong,	34
Newcastle,	60
Shanghai,	465
Sydney,	581
Paraffin Wax—	
Fiume,	6180
Genoa,	324
Leghorn,	430
Venice,	416
Arendal,	32
Fiume,	15 t.
Potash Salts—	
Canada,	11 c.
Potassium Bichromate—	
Genoa,	61,556
Leghorn,	266
Venice,	248
Rotterdam,	40
Antwerp,	186
Canada,	13 t.
Ghent,	200
Canada,	148
Yokohama,	1,602
Potassium Prussiate—	
Barcelona,	4 t.
U.S.A.,	9
Rosin Oil—	
Amsterdam,	650
Salt—	
Sydney,	5 t.
Salt Cake—	
Terneuzen,	302 t.
Sheep Dip—	
Punta Arenas,	6160
Soap—	
U.S.A.,	10 t.
Transvaal,	2
Hong Kong,	2
Sodium Bichromate—	
Genoa,	53 t.
Leghorn,	3
Treacle—	
Christiania,	71 t.
Gothenburg,	13
Bergen,	13
Drontheim,	6
Varnish—	
Shanghai,	648
Sydney,	25
White Lead—	
Transvaal,	676
Montreal,	73
Newcastle,	39

TYNE.

Week ending November 9th.

Alkali—	
Amsterdam,	31 t.
Rotterdam,	7
Alum—	
Rotterdam,	10 t.
Ammonia—	
Rotterdam,	20 t.
Antimony—	
Hamburg,	5 t.
Copenhagen,	1
Montreal,	2
Arsenic—	
Montreal,	51 t.
Asbestos—	
Drontheim,	63 lbs.
Barium—	
Antwerp,	5 t.
Barytes—	
Hamburg,	100 t.
Bleaching Powder—	
Antwerp,	43 t.
Hamburg,	90
Amsterdam,	29
Christiania,	4
Nakskov,	2
Copenhagen,	34
Konigsberg,	6

Rotterdam,	19
Bergen,	4
Terneuzen,	25
Gothenburg,	15
Caustic Soda—	
Antwerp,	14 t.
Hamburg,	65
Amsterdam,	5
Christiania,	7
Copenhagen,	2
Stockholm,	148
Rotterdam,	11
Genoa,	29
Colours—	
Copenhagen,	3 c.
Genoa,	17
Linseed Oil—	
Montreal,	5 t.
Litharge—	
Hamburg,	14 c.
Stockholm,	1 t.
Magnesia—	
Hamburg,	10 c.
Smyrna,	2 t.
Genoa,	2
Copenhagen,	13
Rotterdam,	1
Magnesium Sulphate—	
Christiania,	5 t.
Manure—	
Genoa,	100 t.
Ochre—	
Montreal,	2 t.
Paint—	
Antwerp,	15 c.
Genoa,	1 t.
Phosphorus—	
Valencia,	2 t.
Soda—	
Antwerp,	5 t.
Valencia,	1
Amsterdam,	18
Smyrna,	8
Christiania,	5
Stockholm,	60
Rotterdam,	35
Genoa,	4
Soda Ash—	
Christiania,	13 t.
Konigsberg,	122

GOOLE.

Week ending November 6th.

Benzol—	
Rotterdam,	48 cks.
Hamburg,	48
Boulogne,	76
Chemicals (otherwise undescribed)	
Rotterdam,	50 cks.
Coal Products (otherwise undes.)—	
Antwerp,	1 ck.
Boulogne,	2 cs.
Ghent,	1
Hamburg,	2
Rotterdam,	208
Colours—	
Boulogne,	2 cs.
Ghent,	1 ck.
Dyestuffs (otherwise undescribed)	
Boulogne,	1 cs.
Ghent,	1 ck.
Manure—	
Boulogne,	30 bgs.
Ostend,	177
Pitch—	
Dunkirk,	80 t.
Antwerp,	662

GRIMSBY.

Week ending November 9th.

Chemicals (otherwise undescribed)	
Dieppe,	5 cks.
Coal Products (otherwise undes.)—	
Dieppe,	128 cks.
Hamburg,	3 cs.
Rotterdam,	5
Colours—	
Antwerp,	3 cks.
Dieppe,	6
Hamburg,	3
Malmo,	1
Rotterdam,	1
Manure—	
Rotterdam,	300 bgs.

PRICES CURRENT.

WEDNESDAY, NOV. 20TH.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	& 9/-
" Glacial	"		40/-
Arsenic S.G., 2000°	"	0	15 0
Fluoric	per lb.	0	0 3½
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
(Cylinder), 30° Tw.	"	0	3 0
Nitric 80° Tw.	per lb.	0	0 1½
Nitrous	"	0	0 1½
Oxalic	nett	0	0 3½
Phosphoric, 1750°	"	0	1 1
Picric	"	0	0 10
Sulphuric (fuming 50 %	per ton	15	10 0
(monohydrate)	"	5	10 0
(Pyrites, 168°)	"	3	0 0
" 150°	"	1	5 0
(free from arsenic, 145°)	"	1	7 6
Sulphurous (solution) S.G. 1025	"	3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric	"	0	1 1
Arsenic, white powdered	nett per ton	15	15 0
Alum (loose lump)	"	4	12 6
Alumina Sulphate (pure)	"	4	12 6
Aluminoferrous	"	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	"	0	1 3
88° = 28° B.	per lb.	0	0 3
" = 24° B.	"	0	0 2½
Carbonate	nett	0	0 3½
Muriate	per ton	22	15 0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	& 37/-
Nitrate	per ton	38	10 0
Phosphate	per lb.	0	0 6½
Sulphate (grey) London	per ton	8	15 0
" (grey) Hull	"	8	16 3
Aniline Oil (pure)	per lb.	0	0 5½
Aniline Salt	"	0	0 4½
Antimony	per ton	30	15 0
(tartar emetic)	per lb.	0	0 7
(golden sulphide)	"	0	0 10
Barium Chloride	per ton	6	7 6
Carbonate (native)	"	3	5 0
Sulphate (native levigated)	"	42/6	to 65/-
Bleaching Powder, 35 %	nett	7	0 0
Liquor, 7 %	"	3	10 0
Bisulphide of Carbon	"	13	5 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	"	15/-	to 30/-

Coal Tar Products and Dyes:—

Alizarine (artificial) 20 %	nett per lb.	0	0 7½
Magenta	"	0	3 9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0 11½
Benzol, 90 % nominal	per gallon	0	1 7
50/90	"	0	1 6
Carbolic Acid (crystallised 40°)	per lb.	0	0 6
(crude 60°)	per gallon	0	1 7½
Creosote (ordinary)	"	0	0 1½
(filtered for Lucigen light)	"	0	0 2
Crude Naphtha 30 % @ 120° C.	"	0	0 5½
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	"	1	15 0
Solvent Naphtha, 90 % at 160°	per gallon	0	1 4
"Lucigen" and "Wells" Oils	"	0	0 2½
Copper	per ton	42	10 0
Sulphate	"	16	5 0
Oxide (copper scales)	"	41	10 0
Glycerine (crude)	"	25	0 0
(distilled S.G. 1250°)	"	60	0 0
Iodine	nett, per oz.	0	0 9
Iron Sulphate (copperas)	per ton	1	5 0
Sulphide (antimony slag)	"	2	0 0
Lead (sheet) for cash	"	12	15 0
Litharge Flake (ex ship)	"	13	15 0
Acetate (white)	"	22	0 0
" brown	"	15	0 0
Carbonate (white lead) pure	"	16	0 0
Nitrate	"	19	0 0

Lime, Acetate (brown)	per ton	5
" (grey)	"	7
Magnesium (ribbon and wire)	per oz.	0
Chloride (ex ship)	per ton	2
Carbonate	per cwt.	1
Hydrate	per ton	17
Sulphate (Epsom Salts)	per ton	3
Manganese, Sulphate	"	17
Borate	per cwt.	2
Ore, 70 %	per ton	3
Methylated Spirit, 61° O.F.	per gallon	0
Naphtha (Wood), Solvent	"	0
" Miscible, 60° O.F.	"	0

Oils:—		
Cotton-seed	per ton	18
Linseed	"	21
Petroleum, American	per gallon	0
Stearine	per ton	24
Phosphorus (yellow)	per lb.	0
(red)	"	0
Potassium (metal)	per oz.	0
Bichromate	nett per lb.	0
Carbonate, 90% (ex ship)	per ton	17
Chlorate	per lb.	0
Cyanide, 98%	"	0
Hydrate (Caustic Potash) 90 %	per ton	24
" (Caustic Potash) 75/80 %	"	21
" (Caustic Potash) 70/75 %	"	20
Nitrate (refined)	per cwt.	1
Permanganate	per cwt.	2
Prussiate Yellow	per lb.	0
Sulphate, 90 % (ex ship)	per ton	9
Muriate, 80 % (do.)	"	8
Silver (metal)	per oz.	0
Nitrate	"	0
Sodium (metal)	per lb.	0
Carb. (refined Soda-ash) 48 %	nett per ton	4
" (Caustic Soda-ash) 48 %	"	4
" (Carb. Soda-ash) 48 %	"	4
" (Alkali) 58 %	"	3
" (Soda Crystals)	"	2
Acetate (ex-ship)	"	14
Arseniate, 45 %	"	11
Chlorate	per lb.	0
Borate (Borax)	net, per ton	19
Bichromate	per lb.	0
Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	ton lots	4
" (74 % Caustic Soda)	"	8
" (70 % Caustic Soda)	"	7
" (60 % Caustic Soda)	"	6
" (60 % Caustic Soda, cream) (f.o.b.)	"	6
Bicarbonate	"	6
Hyposulphite	"	5
Manganate, 30%	"	16
Nitrate (95 % ex-ship Liverpool)	per cwt.	0
Nitrite, 98 %	per ton	30
Phosphate	"	13
Silicate (glass)	per ton	4
" (liquid, 100° Tw.)	"	3
Stannate, 40 %	per cwt.	3
Sulphate (Salt-cake)	per ton	1
" (Glauber's Salts)	"	1
Sulphide	"	8
Sulphite	"	4
Strontium Hydrate, 100%	"	0
Sulphocyanide Ammonium, 95 %	per lb.	0
Barium, 95 %	"	0
Potassium	"	0
Sulphur (Flowers)	per ton	7
(Roll Brimstone)	"	5
Brimstone: Best Quality	"	3
Superphosphate of Lime (26%)	"	2
Tallow	"	23
Tin Crystals	per lb.	0
English Ingots	per ton	68
Zinc (Spelter)	"	15
Chloride (solution, 100° Tw.)	"	5

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445.

SATURDAY, NOVEMBER 30, 1895.

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ADVERTISEMENT.

NG GENTLEMAN desires Post as Bookkeeper, Cashier, or any position of trust. Experience in the Chemical, Borax, and other industries. References and security.—Address, "A," *Chemical Trade Journal* Manchester.

ANNUAL SPECIAL ISSUE, 1896.

Annual Double New Year Number of the *CHEMICAL TRADE JOURNAL*, to be issued on January 18th, 1896, will contain a number of technical articles, in addition to the other special features of the issue. Advertisers are requested to consult our advertising agent for further particulars.

Subscribers and others will oblige by ordering extra copies as early as possible.

ESPECIALLY for the CONTINENT and ABROAD.

Notices.

Communications for the *Chemical Trade Journal* should be sent to the Editor, and Cheques and Post Office Orders made payable to—

WIS BROS., 32, Blackfriars Street, MANCHESTER.

Our Registered Telegraphic Address is—

"Expert, Manchester."

NATIONAL TELEPHONE 3060.

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Advertisements of Situations Vacant, Premises on Sale or To be Let, and Specific Articles for Sale by Private Contract are inserted in the *Chemical Trade Journal* at the following rates:—

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Each additional 10 words 6s. 6d. "
Advertisements of Situations Wanted are inserted at one-half the rates when prepaid, viz.:—

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Each additional 10 words 6s. 3d. "

Advertisements, Announcements in the Directory Columns, and all Advertisements not prepaid, are charged at the Tariff rates which will be forwarded on request.

Advertisements intended for insertion in the current week's issue should be sent to the office by Thursday morning at the latest.

THE TEBESSA DISPUTE.

THIS question is beginning to assume considerable importance. The answer that has been given to the British Embassy was very short, conveying the information that the question was one that could only be settled by the tribunals of the country, they alone being capable of dealing with the matter. This is not very satisfactory to the two English companies, as they, doubtless, knowing the justness of their claims, will have no objection to fighting the matter in open court, but, with all due respect to the Algerian tribunals, there appears to be considerable difficulty in obtaining a fair trial and no favour. The cause of all the trouble has been the desire that France should be for the French, and if this line of action is to be rigidly followed the chances of English concessionaires are, like their companies, limited. It will be as well before the industry which is now flourishing is disorganised, and, perchance, crippled, to carefully count the cost and, if possible, foresee what all this misguided *esprit de corps* means. To our way of thinking, there is not much scope for the exercise of prescience. In fact, a recent advertisement appearing in the *Times* seems to us to clearly reveal the future condition of affairs. In this advertisement a certain French chemist, who is preparing to take advantage of the rescinding of the Algerian concessions, is willing to "take an English partner possessing large capital," the French chemist investing a paltry £1,200., and taking the concession in his own name. If this is to be the outcome, is it worth while taking so much trouble to wrest the present concessions from the two English companies and the one French company now successfully working the Algerian phosphates? These companies are employing hundreds of French labourers, and numbers of clerks, managers, and correspondents. Will these or France be any the better off for the substitution of three or four French owners, whose probable investments will amount in all to a few thousand pounds? In these days capitalists do not find money without securing to themselves a substantial share of the profits, and we are inclined to think that those at present engaged by the three working companies would prefer to continue serving one master than two. It is this uncertainty as to the benefits that will result that, to us, makes the present dispute of such importance. If the French were heavy losers under the present conditions, and the expulsion of foreigners would make them gainers, we could only have compensation to fight for. Since some compensation is, according to the report of the Special Commission issued on Tuesday, held to be due, there can be little doubt about the French Government having to pay up. In fighting the matter now, however, we have not only to consider this question of compensation, but also to show as clearly as possible what the probable upshot will be. It would be a sorry kind of policy if the French Government decided to

enforce the cancelling of the concessions and pay compensation to the tune of some millions of francs merely to see in the course of a year or so all the mines once more in the hands of English capitalists, with the exception of the trifling interests of the nominal concessionnaires. It would be far wiser to let well alone until assured of the something better, whatever that may be; and there is certainly sound sense in the proposal of M. Pierre, the manager of the French company, that, pending a decision of the dispute, the works shall not be stopped. If they are, it is more than probable that American phosphate will have gained such a hold in the market that Algerian phosphates will have to begin their battle over again. In the report of the Special Commission there are several severe criticisms of the actions of some of the officials connected with the granting of the concessions, and the British companies are admitted to have acted in good faith. These facts ought to carry weight in passing judgment, as it is hardly just to make the concessionnaires responsible for any laxity on the part of officials. The British firms left no stone unturned to assure their titles, and apparently took precautions that were then considered quite superfluous. It is very evident now that instead of that they were decidedly inadequate. Doubtless much will depend upon the result of the judicial inquiry into the premises of the original contracts that the Public Prosecutor of the Algerian Tribunal has been directed to institute, and till this has been concluded we fear little can be settled. We only hope that this last step may not prove to be a neat way of shelving the matter indefinitely, as it is always detrimental to industries of this class to have such uncertainty hanging over them.

In the meantime much can be done by endeavouring to bring to the notice of the authorities the advantages that have already resulted from the enterprise of the three companies whose concessions they now seek to annul, and by inviting the malcontents to substantiate their grievances before disinterested parties. If they will not do this, they will give their opponents a strong argument, which will strengthen their case far more than a bare statement of their rights and wrongs.

EXPORTS OF PETROLEUM FROM U.S.A.

THE Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for September. The total shipments were 66,344,442 gallons, compared with 75,655,756 gallons in September, 1894. The total for the nine months ending September 30th, 1895, was 608,546,784 gallons, against 650,971,600 gallons during the same period in 1894. The details of the shipments are as follow:—

CRUDE PETROLEUM.		Gallons.
Total, September, 1895.....	11,462,881	
" " 1894.....	8,259,440	
NAPHTHAS.		
Total, September, 1895.....	1,624,639	
" " 1894.....	757,889	
ILLUMINATING.		
Total, September, 1895.....	49,897,093	
" " 1894.....	62,198,575	
LUBRICATING AND PARAFFIN.		
Total, September, 1895.....	3,356,721	
" " 1894.....	4,428,298	
RESIDUUM.		
Total, September, 1895.....	3,108	
" " 1894.....	1,554	

Our Book Shelf.

ANALYTICAL CHEMISTRY. By N. Menshutkin. Translated by Locke. 512 pp. including index. London: Macmillan and Co. 1895. 17s. net.

The author pleads hard for analytical chemistry being accorded a right place in the study of chemistry, and to assist teachers to have framed the present volume. Knowing the difference between English and foreign students it is pleasing to have this work translated and rendered available to every student and teacher. It deals with the metals and metalloids, which are divided into separate groups, the metals themselves being further sub-divided according to properties and reactions. Though mainly dealing with qualitative analysis there is also a section devoted to quantitative, both gravimetric and volumetric. An important feature is the inclusion of the metals in their proper places, instead of dealing with them as a separate subject. They are necessarily treated as a supplement, but they are attached to each group in order. As a companion and guide to the student this work will prove a veritable boon, while for reference many points by analytical chemists in general it is well worthy a place in the library. It is a pity such a useful work has not been provided with a better index.

SCIENTIFIC FOUNDATIONS OF ANALYTICAL CHEMISTRY. By Ostwald. Translated by G. M'Gowan. 207 pp. London: Macmillan and Co. 1895. 5s. net.

In addition to being a mere translation, the original has in two cases been amended by the author, who has also added a chapter on electro-analysis. The book is divided into two parts—Theory and Application. The first part is an exposition of the scientific principles on which analytical chemistry is founded, showing how antiquated theories now followed have become. The third chapter of the first part is especially helpful, dealing with the theory of distillation, the drying of gases, and the separation of several solid substances. The second part is, in a sense, practical, but is still confined to the application of the abstract theories in Part I. to concrete cases. Thus, though the properties and reactions are recorded, the why and wherefore is brought equally into prominence. Next to the book appeals more directly to students, but at the same time as well to ask who—even the most learned—is not yet still a student of chemistry? A perusal will never prove waste of time, while majority it is as necessary as it is helpful.

HINTS ON THE TEACHING OF ELEMENTARY CHEMISTRY. By Tilden. 76 p.p. Longmans, Green, and Co. 1895. 2s.

With such a never-ending supply of books for teaching elementary chemistry, it is by no means unfeeling to be met with a little devoted to teaching, or at all events "guiding" the teacher. The author has prepared in book form a series of lectures delivered to a class of teachers trained at the Royal College of Science. The author's contention that "practical chemistry as taught in the Department of Science and Art at the present time" is largely null and its educational value is undoubtedly true; and it would be a cheering thing to feel assured that this little work could effect a substitution of "education" for the present system of cramming examination "passes." There is nothing very new in the book, what there is well and pointedly presented to the reader, certainly very clearly indicates what to avoid, though it still remains for the teacher to decide how to achieve the desirable. The key-note is "correct observation" as the basis of all analytical theoretical knowledge. Though primarily intended for teachers, Government, it is equally desirable that those holding higher positions as teachers should note how their present methods harmonize with the clew in which the author's composition is written.

PHOSPHATE DEPOSITS IN SPANISH WEST INDIES.—The Secretary of State for Foreign Affairs has received information to the effect that a Spanish Royal order, dated November 8th, was published in the *Madrid Gazette* of the 11th inst., ordering the sale by public auction the right to work the deposits of phosphate of lime (fosfatos) in the island of Caja de Muertos, adjacent to the island of Puerto Rico. The sale is to take place two months after the date of notice before the authorities of Puerto Rico. Only private individuals are Spanish subjects may compete, but foreign companies may in accordance with the requirements of Spanish law are eligible depositing 1,000 pesos (£200) in the treasury at Puerto Rico. The concession will be for a period of 20 years. Conditions may be obtained at the Commercial Department of the Foreign Office between the hours of 11 and 6 daily.

The Patent List.

is compiled from Official sources in the Manchester Laboratory, under the immediate supervision of Davis and Alfred R. Davis, who report professionally value of Chemical Patents.

CATIONS FOR ENGLISH LETTERS PATENT.

ing Pure Dextrose. A. L. Tédesco. 21,314. November 11.
Zinc Oxide from Solutions of Zinc Sulphate obtained by Ores containing Zinc Sulphide. C. F. Claus. 21,379. November 11.
Ores in Roasting Sulphide Ores. C. F. Claus. 21,380. Nov. 11.
Ores in Bleaching Kiers. M. Walton. 21,393. November 12.
Ores in the Manufacture of Coke. W. Thorneycroft. 21,517. November 13.
minium Alloy. H. Partin. 21,575. November 13.
Precipitate resulting from the Treatment of Dye, Bleach, and Paper Works, etc., and Waste Waters. J. Simpson, J. W. and J. H. Riley. 21,624. November 14.
Treatment of Manure and Preservatives and Disinfectants. L. Tralls and E. Burmeister. 21,627. November 14.
Ores in the Production of Zinc Oxide. E. Garton. 21,646. November 14.
Ores in Tanning Apparatus. T. H. L. Bake and H. A. Leverett. 21,678. November 14.
Ores in the Manufacture of Cyanides and Ferrocyanides, from Cyanides, and in the Recovery of Bye-products. J. Raschen. 21,678. November 14.
Ores for Preparing Hides for Tanning. C. D. Abel. 21,720. November 15.
Production of Nitrogen Compounds and Apparatus therefor. J. Raschen. 21,755. November 15.
Ores in the Manufacture of Cattle Cakes. C. Luzzatto and J. Eisenwerke (vorm. Nagel and Kamp). 21,841. November 16.

TRACTS OF LATEST COMPLETE SPECIFICATIONS.

tracts are specially prepared for the Chemical Trade Journal and the rights of publication are RESERVED. This is the earliest date of publication of Chemical and allied patents accessible to the public.

Ores in Electrolytic Apparatus for Decomposing Metallic Ores. Kellner, IX. Wasagasse, No. 29, Vienna. Eng. Pat. 20,259. November 16, 1894.

One of the principal features of the arrangement by which the mercury is subjected to the action of the decomposing chambers, and in which the amalgam formed is acted upon by water, &c., is accomplished by means of a stationary mercury cathode, in the shape of partitions, capable of a to and fro motion, and dipping into the mercury cathode, are so arranged as to decompose and combine chambers from each other alternately backward and forward motion. The mercury is alternately located within the sphere of action of the substance to be combined with the alkaline base of the solution. There are five drawings showing the arrangement of the apparatus, and four other drawings also relate to special methods of construction of which shows how a rotary motion is substituted for the to and fro motion. Two others show how the generation of the chlorine gas outside the bells while the decomposition of the amalgam is taking place within. The fourth modification provides for the more rapid decomposition of the amalgam as it is formed.

Ores in the Manufacture of Cyanides or Ferrocyanides from Corresponding Sulphocyanides. J. Raschen, R. H. Davidson, and all of G 11, Exchange Buildings, Liverpool. Eng. Pat. 24,814. November 16, 1894.

One of the principal features of the arrangement by which the mercury is subjected to the action of the decomposing chambers, and in which the amalgam formed is acted upon by water, &c., is accomplished by means of a stationary mercury cathode, in the shape of partitions, capable of a to and fro motion, and dipping into the mercury cathode, are so arranged as to decompose and combine chambers from each other alternately backward and forward motion. The mercury is alternately located within the sphere of action of the substance to be combined with the alkaline base of the solution. There are five drawings showing the arrangement of the apparatus, and four other drawings also relate to special methods of construction of which shows how a rotary motion is substituted for the to and fro motion. Two others show how the generation of the chlorine gas outside the bells while the decomposition of the amalgam is taking place within. The fourth modification provides for the more rapid decomposition of the amalgam as it is formed.

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Process for the Utilization of the Sulphides and Sulphydrates of Alkaline Earths, and the Production of Aniline, Toluidine, or Amidobenzaldehydes by the Treatment of the said Substances with Nitro-Bodies. Dr. H. Loesner, 42 A, Wiedmühlensstrasse, Leipzig. Eng. Pat. 16,407. September 2, 1895.

Advantage is taken of the reducing action of alkali waste upon nitro compounds, the neutral sulphides being converted into free bases and thiosulphates. In this way the use of iron and hydrochloric acid as reducing agents in the manufacture of aniline is obviated, the patentee attributing the 7 or 8 per cent. loss under the present working conditions to the formation of chloride of iron, which acts destructively on the aniline already formed. The aniline produced by the sulphide treatment has a slight yellow colour, probably due to the presence of small quantities of azoxy- and azo-benzol, but by distillation an aniline of great purity is obtained. The method is applied practically in the following way:—Four parts of nitrobenzol are heated from four to eight hours with six parts of calcium sulphide and five to ten of water, either in a closed vessel or one connected to a reflux condenser, the mixture being stirred all the time. The aniline is blown off by steam, and purified by distillation.

The Utilization of the Gases resulting from Fermentation and from Lime Kilns for the Production of Alkaline Carbonates, and of pure Carbon dioxide applicable for Treating Saccharine Matters, the Production of Liquid Carbon dioxide, and other Purposes. C. D. Abel, 28, Southampton Buildings, Chancery Lane, London (communicated by H. Mees, Wynehem, near Antwerp). Eng. Pat. 18,016. September 25, 1895.

The crude gas from fermenting vats or limekilns is purified and rendered fit for liquefaction purposes by being drawn or forced by a fan from either of the above sources, through a series of towers packed with purifying agents, or coke moistened with solutions of the same. The purified gas is yet too weak to be liquefied, and moreover contains air, 5% of which raises the point of liquefaction from 50 or 60 atmospheres to 140 or 150. The mixture of CO₂ and air is therefore caused to act on neutral alkaline carbonates, either in the solid or solution, converting them into bicarbonates, which in turn are decomposed by heat and the CO₂ evolved, liquefied by compression. It is claimed that the gas so obtained is purer than the product arising from the action of acids upon pure natural carbonates.

Improvements in the Manufacture of Potassium Chlorate. T. Parker, Manor House, Tottenhall, Wolverhampton. Eng. Pat. 24,860. December 21, 1894.

The process is an electrolytic one. A cell divided into two divisions by a porous diaphragm is charged with magnesium chloride. Into one division precipitated oxide of magnesium is placed along with potassium chloride, and a current of electricity passed through the cell. Chlorine is liberated in the cell containing the Mg(HO)₂ and KCl, which attacks the former, producing magnesium chlorate, while by keeping the temperature at about 80°C. the potassium of the chloride displaces the magnesium in the freshly-formed chlorate. When the decomposition has gone on long enough, the solution is removed and treated for the recovery of the potassium chlorate. During the passage of the current, metallic magnesium is produced in the other division, which oxidizes, and is precipitated as hydrated oxide. When the mother liquor from which the KClO₃ has been separated is returned to the cell, this precipitated Mg(HO)₂ is also added, being transferred from one division to the other, chloride of potassium and additional Mg(HO)₂ being added as required. If desired, the chloride of potassium need not be added to the liquor in the cell, but the solution of magnesium chlorate can be removed and treated separately with the potassium chloride while fresh chlorate of magnesium is being generated. Chloride of calcium can be substituted for the magnesium salt at option.

Improvements in Wooden Vessels for the Transportation of Acids and other Corrosive Liquids. C. Kramer, c/o A. A. Brodsky, Chemical Works, Odessa. Eng. Pat. 4,684. March 5, 1895.

To avoid the risk of breakage that attends the use of glass carboys or stoneware vessels, wooden receptacles, lined with acid or alkali resisting materials, are proposed. The lining is applied in two layers. First, a mixture of asbestos and silicate of soda is applied, which adheres firmly to the rough surface of the wood, and sets almost as hard as stone. This layer is then coated with paraffin wax, pitch, coal-tar, etc., or if for benzene, etc., additional silicate of soda or glue may be used for the second layer. In the first layer, talc, etc., may be substituted for asbestos. Several arrangements are described according to the nature of the class of liquid to be carried.

Treating Animal Blood for Manurial Purposes. R. T. Savage, Heath Cottage, Quebec-road, Thorpe Hamlet, Norwich, and E. G. Walker, of the same address. Eng. Pat. 8,101. April 24, 1895.

The blood is exposed to the air in shallow vessels until decomposition sets in. Three ounces of hydrochloric acid, and the same amount of ferrous sulphate is then added to every 16 lbs. of blood, and the whole evaporated to remove moisture, and subsequently pulverised.

LOW TEMPERATURE RESEARCHES.*

By H. GRIME.

IN the following paper an attempt has been made to bring together for the benefit of the members of this society a number of facts gleaned from various periodicals concerning the properties of certain substances at low temperatures. Recent progress in this field of research has been so intimately associated with the names of Pictet, formerly of Geneva, now of Berlin, Olszewski, of Cracow, and Dewar, of London, that much of the paper is simply a summary of the results of their labours. Members who wish to read the original accounts will find a number of papers by Pictet in the "Comptes Rendus," an excellent auto-summary of Olszewski's work, accompanied by references to his published papers, appeared in last February's number of the "Philosophical Magazine." Dewar's researches have been made public chiefly in the form of lectures at the Royal Institution. Details of work done by Dewar, in conjunction with Prof. Liveing, of Cambridge, or with Prof. Fleming, of London, are to be found in the "Philosophical Magazine" for 1893, 1894, and 1895. It goes without saying that my information has been almost entirely derived from these papers. I may add that I have not hesitated on occasion to use the exact words of the original article or paper.

Methods of Obtaining Low Temperatures.—Roughly speaking, these methods may be placed in two classes. 1st, those depending on absorption of heat consequent upon change of state of matter in the liquefaction of a solid or the evaporation of a liquid; and (2nd) those depending on the absorption of heat consequent upon the expansion of a gas under such circumstances that work is done.

In other words, in freezing mixtures advantage is taken of the change of heat energy into mechanical energy, which occurs whenever work, either internal or external, is done. As we shall see later, Cailliet made use of the sudden expansion of the gas in his successful attempt to liquefy oxygen, and many of the present day commercial processes for obtaining cold air are applications of the same scientific principle.

As an example of the first class of freezing mixtures may be given the solution of potassium sulphocyanide in water. A temperature as low as -20°C may thus be obtained. A more familiar freezing mixture is formed when snow or pounded ice is mixed with salt. Here the two bodies re-act in some way, forming a liquid hydrate called by Guthrie a cryo-hydrate; to effect the change of state so much heat is required that, under the best conditions, the temperature may fall to -18° . The change of state in this case obviously depends on the heat of combination of the constituents of the cryo-hydrate, as well as on the latent heat of liquefaction. Crystallized calcium chloride and snow form a freezing mixture still more powerful than ice and salt; when they are mixed in equal weights the temperature of the mixture sinks as low as -45° .

Of all the methods for reducing temperature, those depending on the latent heat of vaporisation have proved the most generally useful to the scientist in his attempts to obtain very low temperatures. As examples of these methods we have Richardson's Ether Spray and Carré's Freezing Apparatus, and the latest applications of the same principle have enabled scientists to approach within 50 degrees of "absolute zero." Bearing in mind that the lowest temperature recorded at Greenwich is about -20°C , and that the lowest temperatures ever experienced at the earth's surface have not been nearer to absolute zero than 200° , we may realise something of the value of freezing mixtures to the philosopher in his attempts to reach the utmost bounds of temperature. Liquid oxygen boiling under atmospheric pressure gives a temperature of -181° . If the pressure is reduced to 9 mm. the temperature falls to -212° . Air under like conditions boils at -191° and -220° respectively. Liquid nitrogen boils at -194° under atmospheric pressure, and at -214° under a pressure of 60 mm. By reducing the pressure upon solid nitrogen to 4 mm. of mercury a temperature of -225° has been attained. Liquid oxygen, however, is, according to Olszewski, to be preferred to nitrogen as a refrigerating agent; for the former has not been solidified by itself in mass, whereas at -214° nitrogen solidifies to a snowy opaque mass, which, like solid carbon dioxide, is a bad conductor of heat.

The liquefaction of chlorine by Northmore in 1806 must be looked upon as a most important step in the march of science towards the goal of the absolute zero. Nevertheless, it was little regarded at the time. In 1823, at the suggestion of Davy, Faraday made some experiments on a body which proved to be the hydrate of chlorine. These experiments resulted in the liquefaction of chlorine for the second time. But still no immediate advance was made. Faraday, in fact, seems to have put aside this branch of research altogether until his attention was once more directed to it by Thilorier's discovery that carbon dioxide can not only be liquefied, but can also be obtained as a snow-like mass by simply allowing the liquid to boil vigorously under atmospheric pressure. Faraday was the first to publicly perform this experiment in England. He made some carbon dioxide snow during a lecture given at the Royal Institution in 1838. During 1844 he

devoted much of his time to a general study of the liquefaction. His apparatus was very simple: the gas was generated in one limb of a closed U-tube of specially-prepared glass, and condensed in the other limb by means of its own pressure, aided in some cases by the use of temperature effected by placing the second limb in a mixture. In this way Faraday liquefied sulphur dioxide, dioxide, nitrous oxide, euchlorine, cyanogen, ammonia, and chloric acid gas. Thilorier prepared liquid carbon dioxide on a scale by the same method, but using two communicating cylinders of cast-iron instead of the glass tube. Mareska and Donny used leaden cylinders, provided with copper and wrought-iron coils the dangerous cast-iron vessels. A still further improvement of apparatus was devised by Natterer, of Vienna, who condensed in a wrought-iron vessel by means of a force-pump. The workers on the liquefaction of gases found themselves unable, the use of enormous pressures, to liquefy oxygen, nitrogen, by air, carbon monoxide, nitric oxide, and methane. These gases, therefore, came to be called the permanent gases. Although Dewar at first considered pressure a more potent factor than temperature in determining the liquefaction of a gas, the results of the researches of Faraday led him to a different conclusion, and the latest work he used the most powerful freezing mixtures at his disposal. The necessity of a low temperature in liquefaction experiments, indeed, been indicated by the researches of Cagniard de la Tour, experiments of heating volatile liquids in closed tubes forestall the results obtained by Andrews nearly half a century later. Andrews demonstrated the absolute continuity of the gas-liquid states above a certain temperature, which he termed the critical temperature. Above this temperature no pressure, however great, could produce that change in a gas which is termed liquefaction. The light of these experiments all the later workers on the liquefaction of gases have endeavoured to associate increase of pressure with diminution of temperature, with the result that it can now be said that all gases (with the possible exception of helium and hydrogen) have been liquefied.

(To be continued.)

CEMENT MAKING IN MACAO.

REFERRING to the Macao cement industry during last year Vice-consul Werner says:—For many months the Green Island cement factory made considerable profits, without any increase of price, owing to the fall in the value of silver, which, compelling houses to raise their prices, allowed this company to do the same, and still has kept its prices lower than those asked for home cement. Production has consequently considerably increased. In spite of all influences, local and general, the output in 1894 showed an advance of that of the preceding years; 50,000 barrels of cement were made, and cement is sold all over the coast from Singapore to Shanghai, the Yangtze ports. The complete paralysis of Hong-Kong caused by the outbreak of the plague robbed the factory of its best market, and although the sale in Shanghai increased at first on the break of the war, this disturbance subsequently stopped imports to the North, where very large quantities had been used on Chinese works in the neighbourhood of Hankow. A considerable amount of stock resulted from this falling-off of the demand, but a rebound of activity towards the end of the year a large demand was created and favoured by the low exchange, the company was able to get a full share of the trade. In Hong-Kong the authorities are not willing to abandon their old marks and use the Green Island or account of the higher prices asked for the article imported from the North. The average price of coal during the year was high, the rate paid during the war being in one case 50 per cent. above. Deliveries of Japanese coals under old contracts made by the company with merchants in Japan were only interrupted for two months, the continued low rate of exchange naturally favoured the company against importers from Europe, and the steadily improving value of its product enabled it to sell the full output towards the latter part of the year at rates higher than had ever before been realised. The quality of the cement made in Macao has been maintained, and compares favourably with the best known imported brands. In 1894 the limestone quarries on the North River were utilised for the first time, supplies for cement making having formerly been exclusively from the West River. As an illustration of the difficulty under which manufacturers labour in China, it may be noted that quarrymen on the North River are not allowed to use gunpowder in blasting the stone, local superstitions making the people believe that the *Feng-shui* would be unfavourably influenced by the explosion. The employment of less labour by adoption of the more rapid method may have something to do with the disfavour shown to it, but not the first instance of superstition being turned to pecuniary account. So the hard mountain limestone is obtained simply by splitting masses with iron wedges—a most laborious process.

* A paper read before the People's Palace Chemical Society.

WASHING OF MINERAL PHOSPHATES.

nsive plant has recently been put down by the Humboldt Engineering Works Co., Kalk, Cologne, for the well known phosphate works at St. Symphorien, near Mons, Belgium. The plant is specially designed for dressing the phosphates of the Hainaut, in Belgium, which are amongst the oldest phosphates worked. Although they contain comparatively little phosphate of lime, $\text{Ca}_3\text{P}_2\text{O}_8$, usually 20 to 30 per cent., large quantities are mined and brought into the market, partly sufficiently pure to be used in the manufacture of so-called "soluble" phosphate, and partly to mix with richer Florida or South Carolina phosphates, whereby phosphate manures of various degrees of richness are obtained to meet the requirements of agriculturists. The deposits are in the lower part of the chalk formation on the coast of Belgium, and consist of a yellowish-white friable stone, mostly carbonate of lime, with beds from 3 ft. to 50 ft. in thickness, containing coprolites, fish bones, teeth, *foraminifera*, and other animal remains. The purity of the phosphates differs very little from that of the limestone, which they are enclosed, and averages 30, so that the separation is very difficult, but notwithstanding this the treatment is the only successful one on a large scale, and empty at chemical or mechanical-chemical separation have been found as much more costly and tedious.

Deposits are worked partly in open quarries and partly by underground mining, and the raw material is hauled through a tunnel to the surface and about two-thirds of a mile along a train line, with chain haulage, to the dressing machinery. The plant is capable of treating 100,000 tons of crude phosphates per day of 10 hours, enriching the material to 30 per cent., and the power necessary is only 120 H.P. The phosphate as it comes from the mine is pushed into a power-roller, and thence falls on to an inclined bar screen. This is of movable bars with $2\frac{3}{4}$ -in. spaces between, and is driven by a motor. The larger pieces pass into a fixed shoot, where they are separated by hand-picking and the larger phosphates treated by a breaker. After being broken up to pieces of about $2\frac{3}{4}$ in. the material falls, as did the original small particles, passing through the bar screen, into Bourdais disintegrators. Of these three are used. Here the flints are reduced to $\frac{3}{4}$ in. in diameter or less, and the phosphate is powdered. The phosphate mixed with water flows to a tank, by means of which it is raised to two double screens. The mesh here passes only particles under $\frac{1}{16}$ in. in diameter. The larger particles are conveyed out of the plant in railway waggons as refuse.

The fines from the revolving screens flow to the concentrators, where by suitable jiggling machines, of which there is a large number, the heavier or coarser phosphates are deposited in the first jig, and the finer phosphates pass through to the second, and so on, until they are conveyed to the jigs through pipes, the deposit in the last jig being concentrated flowing through syphon pipes into the wide "hoppers" in front of the concentrators, and thence to the "hoppers" (hoppers). On each jig there is placed another small hopper to further enrich the sands and separate the superfluous material, thus the material is separated into three qualities. The material then flows to centrifugal pumps, by which they are pumped into launders under the roof; through these they are conducted to the spitzkastens. The phosphates from the jigs flow through under-annals to three raff wheels, one for each quality, and by means of each quality is raised to channels in communication with settling tanks in connection with 12 settling tanks.

The overflow from the last point of the concentrator, which is collected in the spitzkastens, from thence flow through pipes on to the tables. These form most important parts of the plant, as it is mainly owing to them that large quantities of poor phosphates are treated with economy and advantage. The tables are made to make three products. The coarse material passes to the first table, and the fine on to the 26 $\frac{1}{4}$ -ft. tables. The material is raised through syphon pipes, and is delivered through nozzles on to the table. The table has a smooth cemented surface, and in the center there is a hollow shaft connected to a clean-water pipe by a stuffing-box. At the foot of this shaft there is a distributing pipe, and the slime is conveyed to it from the spitzkastens by a feed pipe. The overflow from this trough, too, the slime flows on to a certain part of the table.

The slime must be sprayed on to the table under a head of water. From another part of the table refining water is distributed in sprays. Three troughs are placed round the table to collect the products according to their quality of fineness. These have channels communicating with raff wheels, by means of which they are lifted to high-level launders conveying the products to the settling tanks at the head of six depositing pits.

The overflow from the concentrators, &c., is collected in the sump, and is pumped by centrifugal pumps and forced outside of the mill with the tailings to the jigs and tables. The overflow from the 18 large depositing pits is pumped to a sand pump, and is forced through pipes to the spitz-

kastens. The overflow from the latter is treated on the smaller of the tables, which divide the material into two qualities and pass it into smaller depositing tanks, the overflow from which is conducted outside the mill.

The deposits in the pits (26 in all) represent the finished products, containing 40 to 50 per cent. of tri-basic phosphate of lime, and are dug out at intervals, and dried in separate buildings by artificial heat.

DYSON'S VITRIOL-RECTIFYING APPARATUS.

THE economy practised in all departments of the chemical trade has been extended even to the concentrating of oil of vitriol, in which branch of industry it was thought that very little was left to be accomplished. Glass, platinum, porcelain, and a variety of other substances have been the materials of which the rectifying vessels were constructed, but it will no doubt be interesting to most of our readers to know the possibility of concentrating corrosive acids in basins of enamelled iron.

Reference to our advertising columns will show the disposition and construction of Dyson's improved plant, in which a series of vessels of enamelled iron are placed in a heated flue; the weak acid is admitted at the top, and this flows downward throughout the series until it leaves the last vessel a clear liquid of 1.84 specific gravity. Coke is used as fuel on account of the non-deposition of soot upon the vessels, a fact that might well be noted in connection with the firing of ordinary glasses. The enamelled-iron vessels appear to cost the same as ordinary glass retorts, and the life seems about the same.

We have several times inspected the apparatus at work, and have been very much pleased with its simplicity and excellence; and the working results, when compared with the old system of glass rectification, show a wonderful pecuniary benefit. In the apparatus as we have seen it, chamber acid of 100°Tw. was being employed, and one hundred tons of 168°Tw. acid was produced in 43 days with a consumption of 23 $\frac{1}{4}$ tons of gas coke. The wages paid during this run were £19. 9s. 7d., which includes wages for cleaning the vessels when required; but as one man by night and one by day (here employed) could readily look after two installations, or even more, the wages item should be reduced from 3s. 10 $\frac{1}{4}$ d. to 2s. per ton. The comparison of the old glass rectifying system with the new mode is strikingly shown by the following:—

COST PER TON OF 168°TW. ACID.

	I.	II.	III.
	£ s. d.	£ s. d.	£ s. d.
Brown Acid	0 16 0	0 16 0	0 16 0
Fuel	0 4 9	0 4 3	0 1 6 $\frac{1}{2}$
Wages	0 9 4	0 8 8	0 2 0
Breakages	0 0 8	0 1 6	0 0 9
	1 10 9	1 10 5	1 0 3 $\frac{1}{4}$

No. 1 was from a works in which ordinary glasses were boiled four times a week; No. 2 from a works where the glasses were boiled every day and run off hot; while No. 3 are figures from Dyson's method of working. The cooler for the concentrated acid has proved to be an extremely effective apparatus for the exchange of temperatures, a surprisingly small flow of water being actually required, and considering the flow of acid into the apparatus was 100°Tw. and cold, the extra efficiency to be gained by supplying it with acid at 150°Tw. and at 300°F. from the Glover tower can be readily appreciated.

FIRE AT AN ELECTRIC WORKS.—The Arc Electric Works at Chelmsford, belonging to Messrs. Crompton and Co., caught fire shortly before nine o'clock on Monday morning, and at 11-30 nearly the whole of the extensive building was in flames. The fire commenced in the engine-room near the high tension switch board. All the costly machinery is ruined, and the damage is estimated at about £100,000, and 400 workmen will be thrown out of work. The property is insured.

PAVING WITH MOLASSES.—Any new use for waste products is always interesting to economists, and those who have any concern for the welfare of the Southern States will be pleased to hear that the sugar planters have discovered a means of using the enormous quantity of molasses for which they cannot find a market. The chemist of a sugar factory in California has made a pavement 1,000 feet long from molasses mixed with sand. The composition is very hard and durable, blocks of it standing the blows of a steam hammer without giving way, and the heat of the sun is said to harden the road instead of making it run—as might have been expected.—*Financial News.*

Reports of Companies.

COLORADO NITRATE COMPANY, LIMITED.

The directors, in their report for the twelve months ended June 30th last, state that the profit and loss account shows a balance of £7,112., from which has been carried to depreciation account, and duty in suspense written off as irrecoverable, £2,146., leaving a balance of £4,965.; adding balance from previous account, £25,768., there is a total of £30,733. Out of this there has been placed to reserve fund £5,000., and two dividends of 4 per cent. each paid in November and May, leaving a balance of £12,933. The directors propose to pay a further dividend of 2½ per cent. (being at the rate of 5 per cent. for the year), carrying forward to the next account, pending the settlement of the claim against the Chilean Government for \$59,936.10, a balance of £8,933. The directors have closed down the works owing to the low prices ruling for nitrate, and pending the result of negotiations amongst the various nitrate producers for the restriction of output. Meanwhile the machinery and plant are in good order, and ready for the resumption of manufacture at a favourable moment.

LIVERPOOL NITRATE COMPANY, LIMITED.

In their report for the twelve months ended June 30th last, the directors state that the profit and loss account shows a balance of £49,152., from which has been carried to depreciation account £5,047., leaving a balance of £44,104. Adding balance from previous account, £63,251., there is a total of £107,356. Out of this there has been added to reserve fund £10,000., and two dividends paid, each of 15 per cent., leaving a balance of £64,356. The directors propose to place to reserve fund an additional amount of £10,000., and to pay a further dividend of 15 per cent. (being at the rate of 30 per cent. for the year), carrying forward to next account, pending settlement of the claim against the Chilean Government amounting to \$123,443, the balance of £37,856.

PRIMITIVA NITRATE COMPANY.

The directors state, for the twelve months ended June 30th, that the profit and loss account shows a balance of £8,947., from which has been carried to depreciation account, and duty in suspense written off as irrecoverable, £1,881., leaving a balance of £7,066.; adding balance of profit and loss account from previous account, £1,374., there is a total of £8,440. to be carried forward to next account. The directors much regret that, owing to the unsatisfactory state of the nitrate market, they have deemed it advisable to close the works, and instructions have been cabled out to reduce expenses to the lowest possible limit. At the adjourned meeting on Thursday the shareholders decided to reconstruct.

FRENCH AND AMERICAN WHITE LEAD SYNDICATE.

Mr. Justice Vaughan Williams heard the petition of H. T. Cockett and J. Marshall for a compulsory order to wind up the French and American White Lead Syndicate, Limited.—Mr. Eve, Q.C., for the petitioners, said they were shareholders, and the circumstances of the company were peculiar. The company was incorporated in December, 1892, with a capital of £50,000., to acquire certain rights which a Mr. Pape had acquired from a parent company—the White Lead Company, Limited—which was promoted in 1889. On December 9th, 1892, Pape purported to enter into an agreement with the company to buy from them the patents for America and France, and on December 10th, 1892, he agreed with this company to sell his rights for £40,500.—£10,500. in cash and £30,000. in shares. His case was that the directors improperly paid Pape £9,500., and gave him the balance in shares, and that the company never had the benefit of the invention, and nothing was done. A circular was sent to the shareholders of Pryce Jones, Limited, asking them to take shares, and Sir Pryce Pryce Jones was paid a commission of £700. in respect of the shares issued to that company. Sir Pryce Pryce Jones had repaid that to this company, and the circumstances of the repayment ought to be investigated. His case also was that all the shares held by the directors were given them by Pape, and were not paid for. That statement was met by the statement that Sir Pryce Jones applied for and paid for 1,000 shares; but, although the person making that affidavit was himself a director, there was no denial of the allegation about the other directors. A meeting had been held, at which it was resolved to go into voluntary liquidation, and appointing Sir Pryce Jones and Mr. Macdona joint liquidators; but nothing had been done in the liquidation. After the resolution was passed Sir Pryce Jones became incapacitated for business, and, under the Act, where two or more liquidators had been appointed it was not competent for one of them to act alone. These were all matters requiring investigation, and some independent person should be appointed to investigate.—Mr. Parker said he appeared for the company, and also for Sir Pryce

Jones and Mr. Macdona, who had put in an affidavit, and clients courted an investigation. He was willing to meet friend by appointing an independent liquidator, and consent the voluntary liquidation be continued under supervision. He asked if they were willing to pay the independent liquidator investigation. It was idle to appoint one and not supply him.—Mr. Parker said they would contribute as shareholders to the expenses of winding up. Before the petition came on an made by Sir Pryce Jones and Mr. Macdona to supply a sum to conduct an investigation. It was then arranged to of £200. as all that these gentlemen should be called upon to and that, Sir Pryce Jones consenting to retire, Mr. Benjamin be appointed liquidator to act with Mr. Macdona. If the result of the investigation, then a further application made hereafter to convert the liquidation into a compulsory order was made accordingly.

Selected Correspondence.

RIVAL ELECTROLYTIC COMPANIES.

(To the Editor of The Financial News.)

SIR,—The *Money Market Review* of the 16th inst. commences the Electro-Chemical Company to public notice, and gives a reprint of Chairman's speech. Copies of that journal have been sent and with an obvious motive, to various shareholders of the rival Company. Will you, therefore, kindly allow me to point out errors and omissions in the speech of the chairman, Colonel land, C.B., who is a retired officer of the Bombay Army, Royal Engineers, as reported? He says that his company uses iron cathodes, and that the Aluminium Company makes the cury. The fact is that the Aluminium Company does use iron and, in addition, employs mercury, but not as a cathode. It suggests that the mercury volatilises with deadly effects in the Company's process (Castner's). That process is not expensive he suggests, but has been worked on a large scale, with power, for over a year, without any appreciable, or even volatilisation of mercury. There is a mechanical loss of mercury amounts to less than 2 per cent. per annum—a figure which probably be much reduced. Colonel Holland declares that the machinery is surrounded night and day, not only by the fumes of mercury, but by the corrosive chlorine gas, while his company operates in a pure atmosphere.

The truth is that both processes necessarily produce caustic soda, and in both it is conveyed away, without serious trouble, to lime, which absorbs it, forming bleaching powder. Colonel Holland should have informed the shareholders that his caustic soda contains about 10 per cent. of salt, whereas Castner's is pure—a difference which soapboilers and others will appreciate apart from the question into which I cannot enter; but the assurances given to the shareholders by the Right Hon. J. Balfour and Roscoe are unequivocal. Colonel Holland has, I believe, inspected the Castner factory, nor has its caustic soda been sold, as the whole product, having a purity elsewhere unattainable, with great profit in the manufacture of metallic sodium.

Nov. 21, 1895.

(To the Editor of the Financial News.)

SIR,—I do not propose to go into all the statements of "Chemist" in his letter published in your Friday's issue, because of them have nothing to do with the electrolytic processes of the Electro-Chemical or the Aluminium Company, and so I have saved me the trouble of contradicting by contradicting himself; but, as one much interested in alkali and alkali metal, I cannot let his letter pass without saying I am satisfied with the caustic soda made by the Electro-Chemical Company, and in many factories in Lancashire and elsewhere, contains no salt whatever, and is, I believe, as pure as can be made, certainly purer than any I have ever seen manufactured by process, and doubtless it is on this account that it has already and is obtaining, such a large sale, and several repeat orders from boilers and others.

As to the quality of the Aluminium Company's caustic soda, or may not prove all that "Chemist," who is evidently interested in that company, tries to make out it will do; but at present nothing to enable us to form an opinion about it except the statements of interested parties; for, as "Chemist" admits, none has been made, nor, I believe, any bleach—none has, anyhow, in the alkali markets of England,—whereas many hundreds, if not thousands, of tons of Electro-Chemical caustic soda and bleach have been bought up in advance.

Nov. 23, 1895.

FAIR.

Trade Notes.

OTHER LAMP ACCIDENT.—Through the upsetting of a paraffin fire occurred last week on the schooner *Alnwick*, of Carnarvon, Bowling, on the Clyde. Considerable damage was done.

COAL SHIPMENTS.—Last week's Scotch coal shipments rose to 152,000 tons, an increase of 5,000 tons on the previous week and an increase of 16,600 tons on the corresponding week of last year.

MEETING OF CHEMICAL INDUSTRY: London Section.—The next meeting will be held at Burlington House on Monday, Dec. 10, 8 p.m. There are two papers down for reading, viz., "Alkali Manufacture by the Hargreaves-Bird System of Electrolysis," by Mr. Hargreaves, and "The Analysis of Chrome Iron Ore, Ferrichrome, Chrome Steel," by Dr. Rideal and Mr. S. Rosenblum.

MEETING OF CHEMICAL INDUSTRY: Liverpool Section.—The next meeting of this section will be held at the University College on Friday, December 4th. Among certain miscellaneous communications a paper will be read by Dr. G. H. Bailey on "The volatilisation during evaporation." The meeting will commence at 7.30 p.m.

ELECTRICAL TRADES' DIRECTORY FOR 1896.—This useful Directory and Handbook is now undergoing revision for the forthcoming edition. The Directory is one of the best in existence, but publishers are desirous of making it thoroughly complete. Those in any way connected with the electrical trade and are not in the Directory, will benefit themselves, as well as assist the publishers, by communicating with them at Salisbury Court, Fleet-Street, E.C.

ALL π . PEACE.—With reference to this action (reported in these columns some time ago) in which judgment for £126 6s 6d. and costs was given against Messrs. J. R. Peace and Co., of Liverpool, we are informed that Messrs. Bessler, Waechter and Co., who supplied the goods (forming the subject of the action) to Messrs. Peace and Co., paid the latter firm the sum of £396. 1s. 8d., the full amount of the debt and costs, and also a further sum for costs of Messrs. Peace and Co.'s proceedings against them.

AIR POLLUTION AT BURY.—On Monday, at Bury Police Court, Kenyon, M.P., carrying on business as James Kenyon and Son, manufacturers, was summoned in two cases by the Mersey and Lancashire Joint Committee for permitting sludge from his Pilsworth Works into the Hollins Brook, a tributary of the river Roach, on the river. Mr. Wilson stated the facts. He said the case was one of utmost gravity, because it involved serious charges against some reference to the way the alleged offence was committed. He said Mr. Kenyon himself was aware of the facts. Mr. Rothman, manager for Mr. Kenyon, denied that the firm were doing the work of mischief alleged, or that any device was being adopted to deceive. They had no idea such a charge would be made, and before asked for an adjournment in order to be able to meet it. The cases were adjourned.

UTILIZATION OF PEAT.—Science has now discovered a variety of uses for this once despised material, considered to be a sorry substitute for coal. It is now put through six processes, of these producing a most valuable absorbent wool for surgical purposes, its antiseptic qualities giving it the preference over the cotton wool. When used for dress purposes, it resembles

When the crude material is prepared and subjected to high atmospheric pressure, it becomes as hard as iron, as is ebony, and takes an equally beautiful polish. It has the appearance of being a perfect non-conductor, so that it is largely used in the United States as tiles for lining refrigerator cars on ice, meat safes, ice houses, where it is said to save 60 per cent. and when used as a covering for steam-pipes, it prevents the loss of heat, and the consequent condensation of steam. A snow paper can also be made of it, so tough that it can almost rival iron.

SMOKE PREVENTION.—A practical test of the invention of Mr. G. Ward, C.E., of London, for the abolition of smoke from factory stacks took place on Tuesday at the mills of Messrs. J. and R. Cass, Washington-street, Glasgow. The patent is divided into three parts, any or all of which can be applied to present furnaces. The principle which is the principal feature of the invention, is so constructed as to pass air, in passing through various passages in it, produces a baffling eddy, partially delaying the progress of the smoke towards the chimney, and the patent door to the second. In the first instance it was found that twelve minutes elapsed before black smoke ceased to be seen from the stack, while in the latter case no smoke at all was seen. Ten minutes after the patent door had been applied it was moved, and the ordinary door shut, with the result that black smoke at once made its appearance from the stack.

SENSIBLE FINE FOR ADULTERATION.—The Gosport magistrates recently fined Edwin Bishop, wholesale grocer, £20. and £4. costs for supplying to the local workhouse butter adulterated with a large proportion of fat. Admiral Field, M.P., presiding magistrate, strongly condemned the system of contracts under which such supplies were sent to workhouses.

THE METRIC SYSTEM.—Mr. Balfour recently received a deputation in reference to the adoption of the metric system. This subject has been considered by a Select Committee of the House of Commons, which has recommended that the metric system of weights and measures be at once legalised for all purposes, and, after a lapse of two years, be rendered compulsory by Act of Parliament. Another deputation recently presented memorials which had been prepared by the Associated Chambers and by the Leeds and other Chambers of Commerce, urging the Government to bring in a Bill next session for the purpose of carrying out these recommendations. The Lancashire County Council has passed a vote in support of its adoption.

SERIOUS FIRE.—Last week a fire broke out on the premises of Messrs. Pinchin, Johnson, and Co., oil merchants, 83, Cable-street, London, E. The premises consist of three blocks of buildings used for the storage of varnish, oils and other inflammable substances. The fire was discovered in the centre block, used as a varnish store, where some men were engaged in pouring varnish from the tanks into smaller vessels. On the alarm being given the iron doors communicating with the other portions of the premises were closed, and the workmen made their escape. Notice of the outbreak was given to the fire brigade, and the engine from Bishopsgate was quickly on the spot. Additional help was also promptly summoned, and engines arrived from all parts of the metropolis. In about four hours the fire was well in hand, and shortly afterwards all danger of its spreading was over. The second and third floors of the varnish stores have been gutted, and a considerable portion of the roof has been destroyed. The cause of the fire is at present unknown.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzol continues firm, and in fairly good demand. Carbollic acids are steady, crude (60%) being quoted 1s. 7½d., and 40% crystals 6d. Naphthas are strong, particularly solvent, for which 1s. 4d. is now obtainable, with crude standing at 6d. Creosote remains without change. Anthracene is steady, and pitch unaltered at 38s., f.o.b. East Coast.

Sulphate of ammonia is fairly steady, and a fair amount of business has been passing. In forward, however, matters are very quiet, the small inquiry being at prices that makers will not entertain. Nearest values are:—Beckton £9., London outside makes £8. 15s., Liverpool £8. 17s. 6d., Hull £8. 15s., and Leith £8. 13s. 9d. to £8. 15s., all prompt.

REPORT ON MANURE MATERIAL.

The market continues very quiet, without any improvement in prices either for phosphatic or nitrogenous material. Mineral phosphates are unchanged, the quotations being, for shipment within the next six months, 6½d. per unit for 75/80% Florida Rock; 6d. for Peace River, and 5½d. for South Carolina River, and similar grade Algerian, in cargoes c.f. and i. to good United Kingdom ports, but these quotations are probably something above actual selling values. River Plate bones are the turn easier. Cargoes of handy size might perhaps fetch £3. 17s. 6d. per ton, delivered good United Kingdom or Continental ports, but £3. 15s. would have to be taken for those of large size. Crushed Kurrahee bones offer at £4. per ton, ex quay Liverpool, and ex ship Hull, without finding buyers. Bombay bone meal, for shipment, is selling at £3. 17s. 6d. per ton. Common grinding bones are worth £3. 10s. to £3. 12s. 6d. per ton, ex quay Liverpool. Nitrate of soda continues weak, ordinary quality at 7s. 6d. per cwt., and fine quality at 7s. 7½d., on spot. The forward position is unchanged.

MISCELLANEOUS CHEMICAL MARKET.

The position remains unchanged in most of the products of the alkali trade. Bleaching powder is in active request for export, and price firmly maintained at £7. 7s. 6d. to £7. 10s. per ton, f.o.b. Liverpool, both for early and forward deliveries. Alkali, 58%, steady at £3. 7s. 6d., bags, f.o.r., though some small resales have been offered at a shade below this figure. Soda crystals unchanged in value. For caustic soda there is all round a better demand, and prices are as follows: F.o.b. Liverpool, 77%, £9. 10s.; 74%, £8. 10s.; 70%, £7. 10s.; 60%, £6. 10s. nett per ton, 10-ton lots and upwards. Salt-

cake firmer at 27s. 6d. to 30s., f.o.r. Sulphur £3. 12s. 6d., f.o.r., and works are fully engaged with orders. Chlorate of potash 4½d. to 4¾d. per lb.; chlorate of soda still scarce at 6½d. per lb.—both the latter are slightly easier for 1896 delivery. Yellow prussiate of potash steady at 7¼d. per lb. Sulphate of copper £16. 10s. per ton, f.o.b., less 5%. Brown acetate of lime is without improvement in value, but is steady and in fair demand, especially for forward delivery. Grey acetate of lime dearer. Other acetates and acetic acid are generally in fair request, but there is no improvement in values. Potash, caustic and carbonate, is still in good demand, and there is no change to report in prices. White powdered arsenic extremely scarce, and stocks are insufficient to meet present demand—£15. 15s. to £16. per ton nett, Garston, having been paid. Aniline and products are generally dearer, with the advance in benzol. Carbolic acid crystals scarce, price 6d. per lb. for 39/40's. Borax and boracic acid have slightly advanced. There is a stronger demand for green copperas, both prompt and forward, and prices are still tending upwards.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is scarce, there being only a small quantity offering, and as holders are firm, prices continue very steady. Sales have been almost entirely limited to Lagos, at £20. 10s. transit. Holders of olive are steady, but there is a small business doing. Linseed is quiet, but so far there has been no alteration in prices, which stand at 20s. 9d. to 21s. 6d. for Liverpool makes in export casks. Cottonseed is firmer. Liverpool refined stands yet at 17s. 6d. to 18s. American is dearer, at 18s. per cwt. Castor oil is very firm. Good seconds Calcutta is selling at 2¼d., and first pressure French at 2½d. to 2¾d. per lb. Tallow is very steady, and prices well maintained. Resin continues dear, but there is a fairly good inquiry in all grades. Spirits of turpentine are in very steady demand, at last week's price of 20s. 6d. per cwt. Petroleum firm at the advance, with American at 7½d. to 8¼d., and Russian refined 6½d. per gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15. Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, f.c., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead unchanged. Venetian red, £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide, £22. 10s. to £25.

LIVERPOOL MINERAL MARKET.

Our market continues to rule very firm, with an upward tendency for most minerals. Manganese: Arrivals have again fallen off, stocks are exceptionally low, whilst the demand is good and prices are firm. Ground manganese continues to meet with a good demand at £6., £8., £10., and £12. 10s. per ton according to quality. Manganiferous iron ore: The tone of our market has somewhat improved but prices are unaltered, 16s. to 17s. 6d. per ton, c.l.f. Chrome ore: Arrivals have been fairly steady, but they have all gone direct into consumption; there are no stocks whatever; the demand is strong with a decided upward tendency which has been materially enhanced in view of the present complications in Asia Minor; prices—40 to 44% ore, 65s. to 70s. per ton; 50 to 55% ore, 100s. to 105s. per ton. Bauxite continues in very good request and prices are firm as last quoted—first quality 20s., second quality, 16s., and third quality 12s. per ton f.o.b. Iron ore: Irish is quiet at 8s. to 10s. per ton. French chalk: Arrivals are of fair average quantity, but they fall far short of the requirements of the increased demand; hence prices have advanced—70s. to 75s., 80s. to 90s., and 100s. to 110s. per ton for "Angel White" brands, according to quality. Magnesite: This has ruled unnecessarily low, but there is more inquiry with the probability of an advance. Wolfram and scheelite: There are two or three small parcels for which there are already several buyers, and prices are firm. Arsenic is increased in price again, being now at 17s. to 18s. 6d. per cwt. Fuller's earth continues strong, with a good demand; lump 50s., ground 55s., and impalpable powder 70s. per ton. Rottenstone: Prime Welsh is firm. Ochres and umbers steadily inquired for at unaltered prices. Oxides of iron: Good strong staining £6. to £10.; prime qualities £18. to £20. Carbonate of barytes: The production continues to increase, but with the coming winter we shall no doubt see a falling off in the supply and higher prices. Sulphate: Prime qualities are scarce and in good demand. Fluor and feld spars are steady without alteration. Emery stone: Prime qualities of Turkish 70s. to 85s., while Naxos, which has again been contracted for, has advanced some 30s. to 50s. per ton, and seems likely to go higher. Mica: Prime

ground qualities £15., £18., and £25. per ton. Bog ore continues steady request at 22s. 6d. per ton. Plumbago meets with a demand for founders' and lubricating qualities at £6. to £10 per ton, and prime powdered Ceylon qualities at £15. to £18. per ton.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, easier: Scotch warrants at 46s. 8d.; Middlesbrough, 38s. cash, and nematite, 47s. Copper, uncertain: Chili bars, G. O. B.'s and G. M. B.'s close £43. 6s. 3d. to £46. 11s. 3d. cash, and £43. 15s. to £44. months. Tin, steady: Straits closed at £64. to £64. 10s. and £64. 12s. 6d. to £65. 5s. three months; Australian, 15s. English ingots, £67. to £67. 10s. Lead, firm: Sp. £11. 12s. 6d.; English, £11. 17s. 6d. Silesian spelter, ord. £15 to £15. 2s. 6d. Nickel, 1s. 2½d. Antimony, £30. 15s. Quick first hands, £7. 7s. 6d. second hands, £7. 5s. Copper shares, 1 Cape, 2½ to 2¾; Copiapo, 1½ to 2; Libiola, 2½ to 3; 3 and Barry, 2½ to 2¾; Rio Tinto, 16½ to 16¾; Tharsus, 4 ¼.

GLASGOW, WEDNESDAY.—Market steady, with fair business. Scotch done at 46s. 9d., 46s. 10½d., and 46s. 8½d. cash, 46s. 11½d., 47s., and 46s. 10½d. one month; closing with buyers 46s. 8d. cash, sellers ask 46s. 8½d. Cleveland done at 38s. cash; closing with buyers at 38s. cash, sellers ask 38s. Cumberland hematite done at 48s. one month; closing with buyers 47s. 9½d. cash, sellers ask 47s. 10d. Middlesbrough iron closes with buyers at 45s. 9d. cash, sellers ask 46s.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

Owing to the despatch of considerable shipments from the Glasgow within the past week, sulphate of ammonia for a brief period promised rather better; but the influence was a mere passing one subsequently the bottom price of £8. 13s. 9d. was again touched, least one transaction prompt f.o.b. Leith. It has since that once slightly recovered to £8. 15s. to £8. 16s. 3d. Perhaps, on two of the makers' stick out for £8. 17s. 6d. As to forward there may be said to be nothing of the sort at the moment, declining to offer anything that sellers would take. The mineral oil continues in large deliveries ex contracts and at 11 prices, of course; but if the advance in American and Russian petroleum is maintained long enough, the Scotch article will go a Paraffin spirit (naphtha) has fallen in price because of the stoppage the shipbuilding yards. Lubricating oils are firm, and light gas dearer. General chemicals continue on the whole satisfactory without any advance.

Chief prices current are:—Soda crystals, £2. 2s. 6d., home, nett, soda ash, 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white 48/52°, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. Glasgow; caustic soda, white, 76° 7/2°, £9. 15s., 6 ½d. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching powder, £6. 10s. to £7. nett, Tyne; saltcake, 25s.; borax, E. refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries export, 4¼d. nett, f.o.b. Glasgow; bichromate of soda, 3¼d. nett, Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 4¾d. less 5%, Liverpool; nitrate of soda, 7s. to 8s.; sulphate of ammonia, £8. 15s. to £8. 16s. 3d., prompt, Leith; sal ammoniac, first and second white, £39. and £37. nett port; sulphate of copper, £16. 15s. to £17., less 5%, Liverpool; scale, hard, 2½d., and soft, 1¾d. to 2½d. per lb.; paraffin wax, semi-refined, 2½d. to 2¾d.; paraffin spirit (naphtha), 7½d. to 8d. gallon; paraffin oil (burning) No. 1, 6½d., and crystal, 6¼d., at w for Scotch buyers (English sales about ½d. lower); ditto (labret) 865° £4. 10s. 6d. to £4. 15s., 880° £5. to £5. 5s., and 890° £5. 10s. to £6. 10s. Week's imports of sugar at Greenock 2,994 baskets cane unrefined, and 7,000 bags beet unrefined.

TYNE CHEMICAL REPORT

TUESDAY

The chemical trade continues quiet, and with the approach of winter shipments show signs of falling off. Bleach and sulphur are in demand. Soda crystals, £2. 2s. 6d. per ton, gross weight, 76/77% caustic, £9. 5s. to £9. 10s. per ton; 70%, £7. 15s. per ton. Other quotations as under:—

Bleaching powder, soft, £7. 5s. per ton, nett; hard, £7. 10s. per ton, nett; caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett.

h, 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ton, nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 10s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 75% Tw., £2. 12s. 6d. per ton, nett; do., 80% Tw., £3. per ton, nett; do., 140% Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 2s. 6d. per ton, nett; do., 2 cwt. bags, £2. 2s. 6d. per ton, nett weight; potash, 5d. per lb., less 6%; pearl hardening, 10s. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £28. 15s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, 10s. per ton, nett.

T.—South Durham salt is steady, at 9s. 6d. per ton, f.o.b., etc.

LS.—There is still a dulness in the steam coal trade, and some of the collieries are working short time, there is no demand in the market. To-day's prices are:—Best Northumbrian 8s. to 8s. 3d. per ton; second qualities, 7s. to 7s. 3d. per ton; seam, 3s. 9d. to 4s. per ton; bunker coals, unscreened, 6s. to 7s.; gas coals, firm, 6s. 6d. to 7s. 6d.; household coals in better, 10s. to 11s. per ton; coke, in steady inquiry, 14s. 6d. to 15s.

WOLL RAY, OIL, AND COLOUR REPORT.

TUESDAY.

Business in these commodities continues good, and although demand for export has been good, in face of the continued large supply of seed and a plentiful supply of oil the markets continue so far as regards linseed and cottonseed oils. Rape oil is not so full and fully maintains its position. The principal imports during the year have been linseed 624,537 quarters, against 624,537 quarters during the same period a year ago. Rapeseed, 1,382,821 quarters. Cottonseed, 163,997 tons against 159,473 tons. Olive oil, 11,406 casks against 20,570 casks. Lin, 7,190 casks against 7,158 casks. Oil cakes, 15,744 tons against 15,582 tons. Tallow 12,727 cwts. against 26,826 cwts. Tur, 18,053 barrels against 16,330 barrels. Linseed oil on the market experienced a further fall of about 5s. per ton, the closing price being 18s. 9d. per cwt. naked. At this rate there are no December or Jan. April, whilst May-Aug. deliveries offer at 18d. Refined and boiled, from £1. to £2. per ton extra. Cotton oil on the spot has declined about 7s. 6d. per ton, fat at 15s. 3d. naked. Dec-April 15s. 6d. to 15s. 7½d. naked. 11., and ordinary barrels 30s. per ton extra. The export for k has been 6,900 cwts. Boiled siccative oil, £13. per ton. £16. to £20. per ton. Castor oil, 2½d. per lb. for first. Liquid soap, £16. per ton. Olive oil, £32. 10s. to £36. 10s. Spirits of turpentine unchanged.

ES.—Quiet, but without any material alteration in prices; e, £6. 2s. 6d. to £6. 10s. per ton. Oil cakes £5. 2s. 6d. to £5. 12s. 6d. to £5. 17s. 6d. Cotton cakes in request; market steady at the recent reduction; best makes, 6d. to £4.; seconds, £3. 15s.; best makes, Dec.-April, 6d. to £3. 15s. Rape cakes unaltered.

TS.—Many firms are already advertising their contracts for ar's supplies, and there is little alteration in situation recorded ago.

New Companies.

Pembrey White Lead Works Co., Ltd.—CAPITAL £20,000., in £5. shares. This company has been formed to acquire the business of the Pembrey White Lead Works Co., and to trade as white lead, oil, and colour manufacturers. The subscribers to the memorandum of association are:—J. Wilkins, Burry Port, Carmarthen, manufacturer; C. James, Ida Villa, Swansea, manufacturer; T. R. Thomas, Burry Port, chemist; T. Griffiths, Burry Port, merchant; G. Griffiths, 10, Glanwer-terrace, Llanelly, manager; H. Tregoning, 55, St. George's-terrace, Swansea, agent; W. H. Protheroe, 64, Mansel-terrace, Swansea, accountant; J. Clutton, 85, Mansel-street, Swansea, gent.

Wear Fuel Works Co., Ltd.—CAPITAL £60,000., in shares of £10. each. This company has been formed to acquire and carry on the business now carried on by R. O. R. Hoyle and T. Havelock at South Dock, Sunderland; Pimlico, Deptford, and Shadwell, London. The subscribers to the memorandum of association are:—R. O. R. Hoyle, 11, Queen-street, Newcastle, merchant; W. A. Hoyle, Normount, Newcastle, merchant; T. Havelock, 11, Queen-street, Newcastle, merchant; Miss S. A. Hoyle, Normount, Newcastle; Miss A. E. Hoyle, Normount, Newcastle; J. A. D. Shipley, 62, Grainger-street West, Newcastle, solicitor; T. C. Winn, 190, Dilston-road, Newcastle, agent.

Morris, Little and Son, Ltd.—CAPITAL £100,000., in shares of £100. each. This company has been formed to acquire the business of Morris, Little and Son, at West Stockwith, Notts., and Doncaster, and to trade as chemists and soapboilers. The subscribers to the memorandum of association are:—R. Morris, Doncaster, manufacturer; Mrs. G. Morris, Doncaster; H. Morris, Doncaster, merchant; Mrs. E. Little, Heckington Hall, Lincs.; P. Ewens, C.E., 15, Poultry Chambers, E.C.; W. G. Little, Blendon-grove, Bexley, Kent, merchant; Mrs. A. W. Little, Blendon-grove, Bexley, Kent.

Tennant and Co., Ltd.—CAPITAL £10,000., in £1. shares. This company has been formed to carry on the business of oil refiners, merchants and dealers, soap manufacturers, and manufacturing chemists. The subscribers to the memorandum of association are:—J. H. Evans, Egerton-street, New Brighton, accountant; D. Jack, 128, Bridge-street, Birkenhead, clerk; A. Jack, 128, Bridge-street, Birkenhead, clerk; J. Washington, 17, Fairview, Oxtou, clerk; J. Monkhouse, 76, Hertford Drive, Liscard, cashier; R. Sumner, 12, Diana-street, Anfield, Liverpool, clerk; A. Wilkinson, 227, Whitefield-road, Everton, book-keeper.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

W. CROYSDALE and J. CROYSDALE, dyers and drysalers, Leeds, under the style of Croysdale Bros.

J. JONES and F. SHAW, rubber substitute manufacturers and rubber reclaimers, Clayton, near Manchester, under the style of Jones and Co.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

ROGERS, W. W., Swansea, analytical chemist and assayer.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

ending November 16th.

of Lime—
es, 412 pks. Lister & Biggs
d, 1 cs. R. W. Greff & Co.

Acid—
d, £16 J. Barber & Co.
6 Phillipps & Graves
n, 3 cs. T. Palmer
oy, 11 A. & M. Zimmermann

5 pks. T. H. Lee
392 A. & M.
Zimmermann
30 G. Rahn & Co.
13 Union L. Co.

Alkali—
France, 195 c. P. Hecker & Co.
Ammonium Chloride—
Holland, 4 pks. H. Lorenz

Antimony—
A. Turkey, 10 t. R. G. Hall & Co.

Antimony Ore—
Australia, 29 t. Vivian, Younger & Co.
" 9 Union Ltge. Co., Ltd.
Smyna, 5 M. D. Co.
Australia, 45 F. Williams

Arsenic—
Portugal, 27 pks. J. Hall, jun., & Co.

Asbestos—
Germany, £35 T. H. Lee

France, 22 Girard Frs. & Co.
Barytes—
Belgium, 47 cks. Hemingway & Co.

Holland, 76 Fleming's Oil Co., Ltd.
" 23 O'Hara & Hoar
" 98 T. & W. Farmiloe
" 46 Silicate Paint Co.
" 203 bgs. Burrell & Co.
" 100 pks. W. Harrison & Co.

Germany, 46 " J. T. Morton
Holland, 20 N. J. Fenner & Co.
" 12 J. L. Lyon & Co.

Belgium, 57 " J. L. Lyon & Co.

Bleaching Powder—
Germany, 11 pks. Thames S. T. & L. Co.

Bromine—
Germany, 10 pks. A. & M. Zinnaermann

Caoutchouc—
France, 38 c. H. Johnson & Sons
Germany, 5 Wallace Brs.
" 25 Anderson, Weber & Smith

Ibo, 110 Forbes, Forbes & Co.
Zanzibar, 6 Clarke & Smith
" 5 Hale & Son

Zanzibar, 15 Forbes, Forbes & Co.
Germany, 246 Prop. Bull WC.
Zanzibar, 278 L. & T. D. J. Co.
Rep. Col., 90 Siedel Bns.

Castor Oil—

E. Indies, 125 cs. Cayzer, Irvine & Co.
France, 25 bbls. Lucas & Spencer's Wt. Ld.

Caustic Potash—

Holland, 199 c. J. M. Steel & Co.
France, 5 drs. F. J. Putz & Co.

Chemicals (otherwise undeciphered)

U. States, 43 cks. C. J. Lock
Germany, 430 L. & I. D. Jt. Co.
" 10 N. & R. Collyer
" 47 pks. T. H. Lee
" 5 D. C. Thomas & Sons
" 15 Philipps & Graves
" 100 A. & M. Zimmermann

Cream of Tartar—

France, 4 pks. C. Atkins & Nisbet
" 3 B. & F. Wf. Co.
" 5 F. C. Devon & Co.
Holland, 10 M. Ashby, Ld.
" 6 cks. Kirkpatrick & Co.
" 4 F. C. Devon & Co.

Cryolite—

Denmark, 2 pks. M. D. Co.

Dextrine—

Germany, 9 cks. City, Coml. Wf.
France, 100 pks. Hernu, Peron & Co.
Germany, 500 W. Balchin
" 71 Cole & Carey

Dyestuffs—

Anthracene
Spain, 217 pks. Burt, Boulton & Co.

Argols

Italy, 643 pks. Thames S. T. & L. Co.

Gochineal

Canaries, 9 pks. F. Huth & Co.
" 149 W. M. Smith & Sons
" 25 Sperling & Williams
" 8 J. W. Borland
" 4 G. S. Bruce

Cutch

E. Indies, 100 pks. Ralli Brs.
" 900 Ross & Deering
" 25 J. Owen

Extracts

Denmark, 2 pks. Pickford & Co.
U. States, 5 W. Burton & Sons
Holland, 2 Philipps & Graves
France, 85 B. & F. Wf. Co.
" 184 Bennett S. S. Co.
" 40 Union L. Co.
" 5 T. H. Lee
Austria, 150 Boucher, Mortimore & Co.

Indigo

E. Indies, 21 cts. Walker, Mumie & Co.
" 08 L. & I. D. Jt. Co.
" 25 Wallace Brs.

Myrabolams

E. Indies, 571 pks. Baxter & Hoare
" 1,076 L. & I. D. Jt. Co.

Naphthalene

Germany, 3 pks. Blumann & Stern

Orchella

Germany, 10 pks. Prop. Bull Wf.

Shumac

Italy, 154 pks. R. Waters
" 1,050 J. Kitchen, Ld.
" 250 Volins & Co.
" 500 Bevington & Sons
" 400 Beresford & Co.

Tanner's Bark

Melbourne, 35 t. Culverwell, Brooks & Co.
" J. Greig

Adelaide

213 Baxter & Hoare

Turmeric

E. Indies, 3,608 pks. Ralli Brs.
" 500 Ross & Deering
" 200 Anderson
" Weber & Smith
" Marshall & French

Valonia

Greece, 14 t. Deering & Robottom

Farina—

Holland, 59 pks. J. Barber & Co.
France, 3 Hernu, Peron & Co.
Germany, 10 T. H. Lee

Glucose—

U. States, 1,010 pks. 1,050 c. L. & I. D. Jt. Co.
" 250 250 c. J. Newcomb
Germany, 100 100 J. Barber & Co.
States, 1,130 1,800 R. G. Hall & Co.
" 100 565 Beresford & Co.

Germany, 25 202 R. G. Hall & Co.

" 100 100 Proprs. Dowgate Dk.

" 55 450 J. Knill & Co.

France, 200 200 Barrett,

U. States, 100 580 Tagant & Co.

" 1,750 6,450 W. Balchin

" 3,500 3,500 L. Sutro & Co.

" 3,500 3,500 Fellows, Morton & Co.

Glue—

Germany, 22 pks. F. Boehm

Lead Acetate—

Germany, 5 t. Philipps & Graves

Manure—

Germany, 20 t. A. Hunter & Co.

Holland, 10 Rosenburg, Loewe, & Co.

E. Indies, 812 A. Hunter & Co.

Sydney, 500 Fox, Roy, & Co.

E. Indies, 250 Fox, Roy, & Co.

Methyl Alcohol—

Germany, 10 dms. Stein Brs.

Belgium, 15 H. Lorenz

Mica—

Germany, 625 T. H. Lee

" 12 L. & I. D. Jt. Co.

Molasses—

Sydney, 12 cks. 80 c. Aust. Meat Co.

Ochre—

Belgium, 42 bbls. W. Harrison & Co.

Holland, 23 pks. Philipps & Graves

France, 340 bbls. W. Harrison & Co.

" 87 T. Cartwright

Phosphate of Lime—

Belgium, 215 t. Anglo-Contl. G. Wks.

Phosphate Rock—

U. States, 2,600 t. Anglo-Contl. G. Wks.

Pitch—

Germany, 15 bbls. T. H. Lee

Sweden, 290 Watts & Co.

Plumbago—

Germany, 25 cks. B. Galloway

" 8 T. H. Lee

Ceylon, 279 J. Thredder, Son, & Co.

Potassium Carbonate—

Germany, 22 Beck & Pollitzer

" 5 Beck & Pollitzer

France, 100 c. Charles & Fox

" 85 Petri Brs.

" 28 J. A. Reid

Germany, 73 Spies Brs. & Co.

France, 7 cks. F. J. Putz & Co.

Potassium Chloride—

Germany, 41 pks. Bessler, Waechter, & Co.

Potassium Permanganate—

Germany, 20 pks. L. & I. D. Jt. Co.

Pumice Stone—

Italy, 9 t. Stobbs, Wilson, & Co.

Holland, 5 Escombe Brs. & Co.

A. Turkey, 15 F. Claydon & Co.

Italy, 1 Pickford & Co.

" 2 A. M. Serena & Co.

" 1 10 c. W. J. Davies & Sons

Pyrites—

Spain, 1,346 t. Anderson, Anderson, & Co.

Rosin—

U. States, 15 bbls. Williams, Torrey, & Co.

" 4,207 H. Hill & Sons

Belgium, 100 cks. Perkins & Homer

France, 15 C. W. Schmidt

Saltpetre—

E. Indies, 420 bgs. Ress & Deering

" 3,624 Lucas & Spencer's Wf.

Germany, 50 cks. J. Hall & Son

" 344 P. Hecker & Co.

" 220 T. H. Lee

Silica—

Germany, 200 A. Haacke & Co.

Soda Crystals—

Holland, 240 c. R. W. Greeff & Co.

Sodium Acetate—

France, 5 pks. H. Lorenz

Sodium Bichromate—

Germany, 52 pks. C. Tennant, Sons, & Co.

Starch—

U. States, 100 pks. R. G. Hall & Co.

" 10 Knight & Morris

Holland, 95 Philipps & Graves

Belgium, 100 Leach & Co.

" 128 F. Claydon & Co.

Germany, 750 Horne & Co.

" 147 Philipps & Graves

Holland, 62 Hernu, Peron, & Co.

Belgium, 230 Arnati & Harrison

Holland, 231 T. H. Lee

" 891 Little & Johnston

" 60 G. Rahn & Co.

" 20 J. Barber & Co.

Stearine—

France, 225 bgs. H. Hill & Sons

Belgium, 64 Mordaunt Brs.

Sulphur—

Italy, 10 t. W. G. Brimstone

" 25 C. Tennant, Sons, & Co.

" 10 J. Greig

" 10 J. T. Morton

" 65 G. Boor & Co.

" 7 W. Balchin

" 100 Soundy & Sons

" 20 P. Hecker & Co.

Sulphuric Acid—

Belgium, 40 pks. Elkan & Co.

Superphosphate of Lime—

Belgium, 100 t. Chemical Wks.

Talc—

Austria, 440 G. G. Blackwell, Sons, & Co.

France, 27 Braach & Rothenstein

Tartars—

Italy, 14 pks. Fellows, Morton, & Co.

Tartaric Acid—

France, 8 pks. Burgoyne & Co.

Holland, 3 F. C. Devon & Co.

Turpentine—

Rep. Gol., 4,720 bbls. Nickoll & Knight

Ultramarine—

Germany, 5 cs. Steinhoff, Sons, & Co.

Holland, 28 cks. W. Harrison & Co.

" 20 Hernu, Peron, & Co.

" 25 pks. Thames S. T. & L. Co., Ltd.

Varnish—

Germany, 1 pks. L. & I. D. Jt. Co.

U. States, 15 Beck & Pollitzer

Verdigris—

France, 4 pks. C. F. Gerhardt

" 1 B. & F. Wf. Co.

White Lead—

Germany, 20 cks. F. Williams

" 15 G. Farmiloe & Sons

" 10 J. Barber & Co.

France, 45 W. Harrison & Co.

Belgium, 40 Perkins & Homer

France, 39 J. Watt & Son

Germany, 23 cs. Grosscurth & Luboldt

Holland, 55 T. & W. Farmiloe

Wood Pulp—

Sweden, 68 pks. A. Hagan & Co.

Holland, 2,446 E. J. & W. Goldsmith

Norway, 15 W. E. Bott & Co.

Germany, 163 O. Herrlich

Sweden, 647 W. G. Taylor & Co.

Norway, 86 Tough & Henderson

Germany, 609 W. Friedlaender

Canada, 3,999 E. J. & W. Goldsmith

Zinc Oxide—

U. States, 100 cks. M. Ashby, Ltd.

Germany, 55 Beresford & Co.

Holland, 150 M. Ashby, Ltd.

Zinc Sulphate—

Germany, 6 pks. Stobbs, Wilson, & Co.

LIVERPOOL.

Week ending November 14th.

Acetic Acid—

Rotterdam, 10 bbls.

Alumina Sulphate—

Rotterdam, 6 bbls.

Asbestos—

Rotterdam, 4 bbls.

Barytes—

Rotterdam, 24 cks. 100 bgs.

Borate of Lime—

New York, 4,562 bgs.

Iquique, 600

Antofagasta, 675

Borax—

Rotterdam, 2 cks.

Camphor—

Hamburg, 2 cs.

Castor Oil—

Calcutta, 490 cs. Ralli Brs.
Chemicals (otherwise undeciphered)
Boston, 20 bxs. J. Can & Co.

Cobalt Oxide—

Rotterdam, 7 cs.

Colours—

Hamburg, 20 cks. 2 cs.

Rotterdam, 50

Cottonseed Oil—

New York, 100 bbls.

Cream of Tartar—

Barcelona, 10 cks.

Dextrine—

Stettin, 100 bgs.

Dyestuffs—

Cochineal
Teneriffe, 30 bgs. Brown, I. & Co.

Cutch
Genoa, 40 cs.

Rangoon, 1,800 bbls.

Extracts
New York, 1 hrl. W. Taylor & Co.

Rouen, 330 cks. W. & A. Society, I.

Baltimore, 50 bbls. Mucklow & Co.

Logwood
Hamburg, 1 pcl.

Belize, 305 t. 15% c. Co.

Barabona, 1,534 ps. Frame, M. & Co.

Orchella
San Francisco, 644 bbls.

bag-
h- 80 bgs.
m- 101 cks. 5 dms. Co-op. W'sale Society, Ld.
burg, 60
Stirk, 10 22 dms.
ce Stone-
riffe, 10 cks.
ss-
va, 3,578 t. Matheson & Co.
nam, 11 bgs. Gunston, Sons & Co.
more, 1 brl.
burg, 100 sks.
tre-
burg, 1 ck. 300 kgs. 2 brls.
York, 700 bxs. 50 crts.
burg, 85 brls.
elphia, 25 cs. Ayrton & Saunders
rdam, 3
tone-
aux, 200 bgs G. G. Blackwell, Sons & Co.
n-
dam, 49 cks.
n Carbonate-
try, 100 bgs.
ore, 400 bgs.
dam, 3 cs.
ne-
dam, 7 brls.
r Ore-
t, 1,400 t. Matheson & Co.
h-
h, 500 bgs.
elphia, 125 tcs.
130 H. A. Lane & Co
ux, 3 cks.
ic Acid-
rg, 6 cks.
elphia, 50 brls.
ux, 2 cs.
arine-
rg, 4 cks.
Salt-
rg, 200 bgs.
Lead-
am, 10 brls. Mander Brs.
ulp-
am, 54 cks.
hite-
am, 60 brls.
hite-
am, 100 cks.
NANCHESTER.
ending November 16th.
acid-
am, 16 blns.
n-
g, 6 cks.
Sulphate-
am, 18 cks.
Colours-
g, 18 cks. 9 cs.
ly Salt-
am, 7 cks.
am, 11 cks. 50 bgs.
Acid-
g, 4 cks.
m, 57 cks 5 bxs. 33 cs.
7
8
3
12
Tartar-
h, 10 brls.
g-
ne
30
to
15 J. & P. Hutchison

Extracts
Rotterdam, 2 cks.
Logwood
Progresso, 573 t.
Farina-
Hamburg, 495 bgs.
Stettin, 700 Browne, Geveke, & Co.
300
Glue-
Rotterdam, 80 bgs.
Hamburg, 20
Stettin, 16 cks.
Lead Acetate-
Rotterdam, 25 cks.
Limestone -
Ghent, 1 crt.
Litharge-
Rotterdam, 7 cks.
Manganese Ore-
Rotterdam, 2 cks.
Ochre -
Treport, 41 cks.
Oxalic Acid-
Rotterdam, 14 cks.
Pitch-
Hamburg, 69 cks. 6 cs.
Potash-
Rotterdam, 8 dms.
Treport, 8 cks.
Potassium Sulphate-
Rotterdam, 100 cks.
Sodium Nitrate-
Rotterdam, 8 cks.
Starch-
Rotterdam, 130 cs.
Ghent, 36
Antwerp, 200 J. T. Fletcher & Co.
180
Tallow-
Hamburg, 100 tcs.
Tartar-
Bordeaux, 1 ck. J. & P. Hutchison
Tartaric Acid-
Rotterdam, 1 crt. 27 cks. 4 cs. 20 kgs.
Ultramarine-
Hamburg, 8 cks.
Waste Salt-
Hamburg, qty.
Wood Pulp-
Rotterdam, 181 bls.
Copenhagen, 80 W. Gallagher & Son
Zinc Ashes-
Rotterdam, 10 cks.
Zinc Oxide-
Rotterdam, 20 brls.
Zinc White-
Rotterdam, 13 cks.
HULL.
Week ending November 16th.
Acid-
Bari, 56 cks. Wilson, Sons, & Co., Ld.
Albumen-
St. Petersburg, 60 cs. Wilson, Sons, & Co., Ld.
Hamburg, 10 cks. "
Bremen, 1 cs. Veltmann & Co.
Alum-
Rotterdam, 3 cks. W. & C. L. Ringrose
Antimony-
Hamburg, 10 cs. Wilson, Sons, & Co., Ld.
Arsenic-
Hamburg, 10 cks. 30 brls. Wilson, Sons, & Co., Ld.
Asbestos-
New York, 300 bgs. Wilson, Sons, & Co., Ld.
Barytes-
Rotterdam, 48 cks. W. & C. L. Ringrose
Bremen, 46 Hutchinson & Son
Antwerp, 40
Chemicals (otherwise undescribed)
Bremen, 5 cs. Veltmann & Co.
Danzig, 19 cks.
Hamburg, 177 Wilson, Sons, & Co., Ld.
China Clay-
Hamburg, 91 cks. Reckitt & Sons

Chloride of Iron-
Rotterdam, 1 ck. Hutchinson & Son
Cod Oil-
Christiania, 5 brls. Wilson, Sons & Co., Ld.
Aalesund, 182
Bergen, 5
Hamburg, 19 cks. "
13 Sissons Brs. & Co.
Colours-
Amsterdam, 5 cks. W. & C. L. Ringrose
Stettin, 25 Wilson, Sons, & Co., Ld.
Copenhagen, 1
Bremen, 7 1 cs. Veltmann & Co.
20 Sissons Brs. & Co.
1
Danzig, 3 Bailey & Leatham
Antwerp, 7 pks. Wilson, Sons, & Co., Ld.
Hamburg, 2 cks. G. Malcolm & Son
Rotterdam, 34 18 pks. 6 cs. W. & C. L. Ringrose
12 Hutchinson & Son
Dextrine-
Stettin, 261 bgs. Wilson, Sons, & Co., Ld.
50
Dyestuffs-
Alizarine
Rotterdam, 20 cks. 13 pks. W. & C. L. Ringrose
Sumac
Palermo, 3,255 pks. Wilson, Sons, & Co., Ld.
1,050 bgs.
Farina-
Harlingen, 100 bgs.
Ghent, 312 cs. 28 sks. W. & C. L. Ringrose
Hamburg, 50 bgs.
Amsterdam, 500 Wilson, Sons, & Co., Ld.
Glucose -
New York, 100 brls.
Rotterdam, 40 bgs. Hutchinson & Son
Stettin, 24 cks.
Glue-
Hamburg, 25 bgs.
Rotterdam, 10 Hutchinson & Son
Guano-
Aalesund, 2 bgs. Wilson, Sons, & Co., Ld.
Manure-
Ghent, 510 bgs. 100 t. Wilson, Sons, & Co., Ld.
Naphthol-
Rotterdam, 4 cks. Hutchinson & Son
Paint-
New York, 21 cs.
Philadelphia, 20 brls.
Trieste, 9 pks. Wilson, Sons, & Co., Ld.
Pitch-
Amsterdam, 60 cks. J. Good & Sons
Potash-
Rotterdam, 20 cks. 16 dms. W. & C. L. Ringrose
Pumice Stone-
Trieste, 2 cs. Wilson, Sons, & Co., Ld.
Messina, 110 16 cks. 340 pks. Wilson, Sons, & Co., Ld.
24 cs.
Soap-
Rotterdam, 2 cs. W. & C. L. Ringrose
St. Petersburg, 2 Wilson, Sons, & Co., Ld.
New York, 313 pks.
Sodium Nitrate-
Hamburg, 116 bgs. Wilson, Sons, & Co., Ld.
Starch-
Bremen, 1,900 cs. Veltmann & Co.
Antwerp, 20 Bailey & Leatham
Stearine-
Antwerp, 63 bgs. M. Needler
Sulphur-
Catania, 1,249 pks. Wilson, Sons, & Co., Ld.
1,927
Tallow-
New York, 30 trcs. Wilson, Sons, & Co., Ld.

St. Petersburg 50 cks.
Tar-
Uleaborg, 200 hf.-brls. J. Good & Sons
Tartaric Acid-
Rotterdam, 12 cks. Hutchinson & Son
Treacle-
New York, 1,875 brls. Wilson, Sons, & Co., Ld.
Turpentine-
Trieste, 3 cs. Wilson, Sons, & Co., Ld.
Libau, 52 cks.
Ultramarine-
Rotterdam, 2 cks. Hutchinson & Son
Yarnish-
New York, 20 brls. Wilson, Sons, & Co., Ld.
Hamburg, 2 dms. "
Waste Salt-
Hamburg, qty. Bailey & Leatham
200 bgs. Wilson, Sons, & Co., Ld.
White Lead-
Antwerp, 58 cks. Bailey & Leatham
Rotterdam, 10 W. & C. L. Ringrose
Amsterdam, 33 Hutchinson & Son
127 "
Wood Pulp-
Rotterdam, 26 bls. Hutchinson & Son
Abo, 142 J. Good & Sons
61 W. Shipstone & Co.
8 Furley & Co.
Zinc White-
Rotterdam, 35 cks. W. & C. L. Ringrose

GLASGOW.

Week ending November 21st.

Acid-
Bordeaux, 10 cks.
Aniline-
Rotterdam, 21 brls. 11 bxs. J. Rankine & Son
Aniline Salts-
Rotterdam, 9 cks. J. Rankine & Son
Barytes-
Rotterdam, 4 pkgs.
Cottonseed Oil-
New York, 30 brls.
Baltimore, 50
Dyestuffs-
Alizarine
Rotterdam, 52 brls. 1 bx. J. Rankine & Son
135 pkgs.
Argols
Bordeaux, 50 cks.
Gutch
Calcutta, 1,000 cs.
Extracts
Baltimore, 50 brls. M'Arthur, Scott & Co. J. Davidson & Co.
50
Antwerp, 1 ck.
Indigo
Rotterdam, 8 chts. J. Rankine & Son
Turmeric
Calcutta, 500 bgs.
Glue-
Rotterdam, 4 cks. 20 cs. 59 bgs. J. Rankine & Son
Boston, 1 bx.
Antwerp, 40 bgs.
Iron Oxide-
Montreal, 72 pkgs.
Manure-
Bordeaux, 300 bgs.
Painters' Colours-
Antwerp, 5 cs.
Rotterdam, 4 cks. J. Rankine & Son
Hamburg, 89 pkgs. 1 ck. 2

Paraffin Wax—

Baltimore, 500 brls.

Pitch—

Antwerp, 1 ck.

Potassium Nitrate—

Hamburg, 20 kgs.

Rosin—

New York, 700 brls.

Baltimore, 700

Soap—

Boston, 2 cks.

Sodium Nitrate—

Hamburg, 5 kgs.

Starch—

Antwerp, 300 cks.

Rotterdam, 40

Stearine—

Amsterdam, 154 bgs.

Tallow—

New York, 70 tcs.

Tartar—

Bordeaux, 20 cks.

Oporto, 4

Tartaric Acid—

Rotterdam, 5 cks.

Waste Salt—

Hamburg, 440 cks. 984 bgs.

White Lead—

Rotterdam, 95 cks.

Wood Pulp—

Sken, 25 brls.

Cristiania, 2,738 lbs.

Zinc White—

Rotterdam, 75 cks.

TYNE.

Week ending November 16th.

Antimony Ore—

Antwerp, 1,294 bgs. Tyne S. S. Co.

Asbestos—

Antwerp, 1 pkge. Tyne S. S. Co.

Colours—

Antwerp, 2 cks. Tyne S. S. Co.

Farina—

Hamburg, 40 bgs. Tyne S. S. Co.

Glue—

Antwerp, 1 ble. Tyne S. S. Co.

Kieselguhr—

Bergen, 145 bgs.

Lead Nitrate—

Rotterdam, 7 cks. Tyne S. S. Co.

Limestone—

Antwerp, 5 crts. Tyne S. S. Co.

Potash—

Hamburg, 2 cks. Tyne S. S. Co.

Pyrites—

Huelva, 1,315 t. Scott Bros.

Slag—

Carthage, 197 t. J. Cameron, Swan & Co.

Starch—

Rotterdam, 20 cks. Tyne S. S. Co.

Stearine—

Antwerp, 6 bgs. Tyne S. S. Co.

Wood Pulp—

Gothenburg, 160 bls.

Christiania, 740

Arendal, 160

Zinc Oxide—

Rotterdam, 25 cks. Tyne S. S. Co.

GOOLE.

Week ending November 13th.

Alkali—

Calais, 21 cks.

Alum—

Rotterdam, 50 bgs.

Alumina Sulphate—

Rotterdam, 12 cks.

Antimony—

Boulogne, 2 cks.

Barytes—

Rotterdam, 11 cks.

Caoutchouc—

Boulogne, 6 cks.

Chemicals (otherwise undescribed)

Boulogne, 1 ck.

Colours—

Ghent, 12 cks. 3 cs.

Hamburg, 18 9

Coppers—

Boulogne, 2 cks.

Dyestuffs—

Alizarine

Rotterdam, 1 brl.

Logwood

Hamburg, 170 t.

Dyestuffs (otherwise undescribed)

Rotterdam, 192 cks. 51 cs.

Boulogne, 63 11 pkgs. 11

Farina—

Hamburg, 950 bgs.

Delfsryhl, 260

Glue—

Rotterdam, 40 bgs.

Phosphate—

Ghent, 800 bgs.

Pitch—

Antwerp, 25 brls.

Potash—

Rotterdam, 16 dms.

Antwerp, 4 cks.

Dunkirk, 75 10

Saltpetre—

Rotterdam, 105 bgs.

Hamburg, 85 3 cks.

Sodium Silicate—

Rotterdam, 1 ck.

Sulphur Ore—

Seville, 400 t.

Waste Salt—

Hamburg, 500 kgs.

GRIMSBY.

Week ending November 1

Albumen—

Hamburg, 10 cks.

Aluminium—

Hamburg, 1 ck.

Caoutchouc—

Antwerp, 2 cks. 3 cs.

Hamburg, 10

Chemicals (otherwise undescr)

Hamburg, 3 pkgs.

Colours—

Hamburg, 5 cks. 5 cs.

Rotterdam, 141

Antwerp, 27 44 13

Dyes—

Hamburg, 14 ck. 35

Antwerp, 6 cks. 92

Saltpetre—

Antwerp, 170 bgs.

Varnish—

Hamburg, 20 cks.

Wood Pulp—

Malmo, 63 bls.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.**LONDON.**

Week ending November 20th.

Acids—

E. London, 50 cks. £93

Freemantle, 4 10

Natal, 25 47

Ammonia—

Croydon, 3 t. £120

Ammonium Bicarbonate—

Lancaster, 6 c. £7

Ammonium Carbonate—

E. Ayres, 2 t. £76

New York, 15 10 c. 495

Ammonium Chloride—

Boulogne, 9 c. £16

Cologne, 23 cks. 161

Melbourne, 10 81

Galata, 6 11

Constantinople, 2 t. 20 28

Santo, 17 27

Ammonium Sulphate—

Dunstable, 50 t. 1 c. £500

Pacamarillo, 5 47

Quincy, 70 724

Hamburg, 200 2,000

Bremen, 100 1,000

Ghent, 30 500

Valencia, 30 9 280

Jorrey, 4 13 16

Amorphous Phosphorus—

E. London, 1 c. £13

Anhydrous Ammonia—

Bangoni, 3 pks. £35

Natal, 4 cks. 31

Barium Nitrate—

New York, 5 t. 2 c. £91

Bisulphite of Lime—

Calcutta, 1 t. 8 c. £26

Borax—

Melbourne, 10 kgs. £11

Auckland, 1 t. 21

Boric Acid—

Calcutta, 2 cks. £11

Carbonic Acid Gas—

Lyttelton, 4 t. £60

Caustic Soda—

Delagoa Bay, 1 t. 8 c. £37

Dunedin, 9 17 92

Algoa Bay, 7 12 162

E. London, 19 23

Wellington, 5 2 38

Colombo, 10 10

Chemicals (otherwise under.)—

Cape Town, 12 cs. £34

Durban, 25 22

Fremantle, 4 12

Madeira, 2 12

Algoa Bay, 25 cks. 20 kgs. 72

Auckland, 10 3 8 47

Calcutta, 1 12 71

Bombay, 5 21 26

Adelaide, 1 3 18

Melbourne, 1 t. 5 c. 3 25

Halifax, 1 4 52

Copenhagen, 6 1 73

Dunkirk, 6 1 70

Santos, 11 13

Madras, 11 13

Rosario, 19 42

Beyroul, 3 25

Karachi, 1 kg. 4 19

Yokohama, 1 11

Citric Acid—

Adelaide, 3 c. £30

Kobe, 10 64

Ibrail, 1 ck. 11

Libau, 10 65

Cape Town, 9 60

Bombay, 8 23

Coal Products—

Alizarine

Reval, 17 cs. £95

Montreal, 3 cks. 39

Boston, 55 51 pks. 1,431

New York, 10 140

Bombay, 100 241

Aniline Dyes

Auckland, 1 c. £10

Dunkirk, 5 drs. £150

Stettin, 12 cks. 380

Ghent, 10 120

Genoa, 10 275

New York, 20 625

Aniline Salts

Leghorn, 5 cks. £30

Genoa, 11 75

New York, 122 690

Anthracene

Dusseldorf, 112 cks. £750

Cologne, 304 1,747

Rotterdam, 42 218

Benzol

Boulogne, 27 cks. £183

Hamburg, 125 295

Antwerp, 21 brls. 60

Treport, 25 57

Rotterdam, 104 45 runs. 28 runs. 653

Philadelphia, 41 drs. 125

Carbolic Acid

Hamburg, 194 cks. £1,140

Rotterdam, 97 310

Antwerp, 8 cans 9

Riga, 24 125

Algoa Bay, 6 35 drs. 26

Bombay, 6 21

Adelaide, 3 15

Barcelona, 10 cs. 38

Marseilles, 1 12

Coal Tar Dyes

Calcutta, 4 pks. £149

Boston, 17 cks. 1 cs. 243

Cresosote

New York, 600 brls. £381

Newport News, 500 219

Selznitz, 23,500 galls. 123

Boston, 500 225

Cresosote Oil

Trinidad, 125 brls. £65

Cresosote Salts

Harlingen, 1,028 bgs. £220

Philadelphia, 1,672 255

Cresol

Treport, 22 cks. £65

Naphtha

Auckland, 10 drs. £19

Treport, 48 cks. 120

Boulogne, 4 25

Naphthaline

Hamburg, 24 cks. £194

Terneuzen, 600 236

Havre, 3 18

Amsterdam, 55 bgs. 45

Pitch

Hong Kong, 1,000 cks. £600

Sables d'Olonne, 650 t. 1,270

Antwerp, 1,101 2,079

Terneuzen, 290 315

Philadelphia, 440 186

Boston, 250 brls. 2,044 bgs

Dunkirk, 19

Pitch and Tar

Malta, 60 frms. 10 brls.

Tar

Cochin, 24 brls.

New York, 100

Algoa Bay, 350

Melbourne, 100

re—		
lara, 50 t.	£500	
ton, 75	636	
ca, 1	11	
ia, 55	595	
cia, 248	1,510	
arp, 1	26	
eloupe, 50	874	
98	450	
5	215	
35		
30		
irk, 5		
town, 269	1,617	
ica, 5	50	
ne, 862	4,722	
neau, 95	495	
2	18	
Acid—		
10 cs.	£40	
Acid—		
burne, 1 t. 6 c.	£44	
horus—		
ide, 15 c.	£98	
h—		
irk, 4 t. 10 c.	£185	
h Crystals—		
3 cks.	£14	
h Salts—		
land, 7 t.	£740	
ide, 2	276	
sium Chlorate—		
burne, 11 c.	£22	
ay, 16 cs.	69	
sium Chloride—		
berry, 29 t. 18 c.	£275	
sium Cyanide—		
ay, 50 cs.	£27	
ay, 7 t.	711	
sium Permanganate—		
ay, 5 c.	£16	
sium Prussiate—		
ay, 5 c.	£19	
ake—		
erp, 70 t. 4 c.	£75	
iburg, 136	238	
45	18	
stre—		
n, 3 t. 13 c.	£81	
io, 1	39	
ndon, 9	11	
burg, 1	22	
ey, 7	167	
burne, 6	141	
land, 10	11	
el Bay, 1	21	
illa, 2	10	
4, 22	4	
Dip—		
alian, 10 dms.	6 cs. £29	
ngton, 1,000	197	
ey, 40 pks.	380 drs. 602	
100	86	
Bay, 26 t. 18 c.	85	
6 pks	908	
res, 23	790	
Town, 1	52	
din, 40 cs.	200	
ands, 95 cks.	12	
iton, 305 pks.	435	
ands, 3 t. 5 c.	£16	
ide, 5	17	
ourne, 1	18	
m Acetate—		
ourne, 1 t.	£14	
m Bicarbonate—		
ourne, 6 t. 3 c.	£35	
el Bay, 1	5	
Bay, 14	14	
3	82	
m Bichromate—		
irk, 1 t.	£45	
m Silicate—		
Town, 3 t. 5 c.	£11	
ur—		
Bay, 22 t. 6 c.	£253	
ndon, 20 kgs.	7	
dad, 4	35	
illa, 10	7	
2	17	
ur Dioxide—		
ourne, 10 cs.	£90	
uric Acid—		
Bay, 6 t.	£27	
as, 24 cs.	18	
phosphate—		
ut, 10 t.	£50	

Tartaric Acid—

Malta, 4 c.	£28
Napier, 2	12
Adelaide, 10	61
Cape Town, 6	29
Sydney, 1 t. 10	179

LIVERPOOL.

Week ending November 20th.

Acetate of Lime—

Santos, 2 t. 1 c. 1 q.	£22
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Albumen—

Boston, 2 t. 10 c.	£46
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Alkali—

Ghent, 50 bgs.	
Gothenburg, 142 cks.	

Alum—

Oporto, 5 t. 1 c. 3 q.	£25
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Patras, 1	9
Rio de Janeiro, 1	1
Sydney, 2	13
M. Video, 1	9
Piræus, 1	8
Varna, 2	17
B. Ayres, 10	19
Galatz, 4	1
Seville, 4	5

Alumina Sulphate—

Santos, 2 t. 5 c. 1 q.	£21
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Aluminous Cake—

Portland, M., 1 t. 1 c.	£3
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Calcutta, 16	2
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Ammonium Carbonate—

Odesa, 10 t.	£332
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Marseilles, 6 c.	9
Copenhagen, 3	8
Libau, 7	15
Leghorn, 2	9
Genoa, 1	10

Ammonium Chloride—

B. Ayres, 1 t. 5 c.	£46
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Calcutta, 1	10
Patras, 1	7
Trieste, 1	2
Genoa, 1	2
Oporto, 10	12
Barcelona, 2	2
Alexandretta, 1	12
Kurrachee, 1	10
Ibrail, 2	71
Boston, 13	5
Leghorn, 10	18

Ammonium Sulphate—

Antwerp, 25 t. 12 c. 1 q.	£230
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Philadelphia, 52	1
Cette, 5	1
Nantes, 21	2
Gd. Canary, 7	3
Genoa, 8	8
New York, 103	2
Boston, 25	10
Newport News, 152	5
Las Palmas, 30	5
Barcelona, 77	8
Baltimore, 100	10
Valencia, 226	14

Asbestos—

Algou Bay, 1 cs.	
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Barium Sulphate—

Santos, 4 c.	£15
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Bleaching Powder—

Baltimore, 314 cks.	
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Bombay, 60 cs.	
Boston, 713	185
Calcutta, 46	
Genoa, 68	
Ghent, 30	
Konigsberg, 78	
Leghorn, 6	
Maranham, 74	
Montreal, 58	
Naples, 53	
Newport News, 158	
New York, 531	69 brls.
Paris, 72	
Pasages, 15	
Philadelphia, 114	
San Sebastian, 73	
Stettin, 10	
Valparaiso, 7	

Boracic Acid—

B. Ayres, 14 c.	£23
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Borax—

Rotterdam, 2 t.	£40
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Campana, 5 c.	5
Venice, 6	3 q.
Sydney, 8	240
Hamburg, 5	103
Bremen, 6	3

Melbourne, 1	22
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Oporto, 10	11
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Brisbane, 1	25
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Borax Crystals—

Campana, 5 c.	£6
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Calcium—

B. Ayres, 2 t. 5 c.	£7
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Calcium Chloride—

Alexandria, 12 c.	£17
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Caoutchouc—

Trieste, 3 bls.	
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Carbolic Acid—

Portland, 13 c. 2 q.	£26
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Rotterdam, 11 t. 5	330
New York, 1	100
Campana, 1	30
Hamburg, 11	1
Odesa, 11	2
Newport News, 6	19
N. Orleans, 1	15

Castor Oil—

Rangoon, 1 dm.	
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Caustic Potash—

Newport News, 1 t.	2 q. £25
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Maranham, 3 c. 3	6
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Caustic Soda—

Adelaide, 95 dms.	
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Alexandria, 36	6 cs.
Algou Bay, 30	
Alicante, 128	
Amsterdam, 33	
Ancona, 35	
Antwerp, 10	
Bahia, 380	
Baltimore, 317	100 cks.
Barcelona, 105	
Bari, 98	20
Bilbao, 35	
Braila, 8	
B. Ayres, 140	
Callao, 55	
Cartagena, Sp., 5	
Cartagena, N.G., 35	
Ceara, 50	
East St. Louis, 300	
Fiume, 130	
Genoa, 344	
Gothenburg, 4	
Hamburg, 190	
Hio, 50	
Hong Kong, 30	
Huelva, 15	
Ibrail, 125	
Leghorn, 89	
Libau, 36	
London, Ont., 35	
Malta, 11	
Maracaibo, 10	
Melbourne, 66	
Milwaukee, 100	
Montreal, 230	
Nantes, 17	
Newport N., 4,076	70 brls. 10
New York, 495	75
Parahyba, 15	
Paris, 69	
Pernambuco, 300	
Piræus, 15	
Reval, 150	
Rio de Janeiro, 12	
Rotterdam, 10	
Samarang, 111	
Santos, 250	
Singapore, 18	
Sourabaya, 8	
Stettin, 30	
Talcahuano, 50	
Tampico, 261	
Tarragona, 67 cks.	
Victoria, B.C., 30	
Vigo, 15	

Chemicals (otherwise undescribed)

Bombay, 3 t. 15 c.	£131
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Montreal, 27	1
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Vera Cruz, 4	20
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Alexandria, 1	8
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Barcelona, 1	9
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Hamburg, 10	19
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Salonica, 1	1
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Genoa, 2	12
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Stettin, 13	22
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Philadelphia, 13	427
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Calcutta, 1	10
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Leghorn, 1	34
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China Clay—

Bombay, 11 t.	
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Boston, 683	
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Piræus, 300 bgs.	
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Chloride of Lime—

Newport News, 2 t. 14 c. 3 q.	£41
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Coal Products—

Alizarine	
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Santos, 8 cks. 2 kgs.	
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Anthracene

Rotterdam, 23 cks.	
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Aniline Oil

Boston, 15 dms.	
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Aniline Salts

Piræus, 1 t. 4 c.	£60
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Boston, 65 cs.	
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New York, 116	41 cks.
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Singapore, 2	
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Benzol

Calcutta, 4 dms.	
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Creosote Oil

Lisbon, 300 brls.	
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Pitch

Cette, 1,272 t. 11 c.	
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Marseilles, 269	10
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Tar

Batavia, 50 rblts.	
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Galatz, 40 brls.	
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Ibrail, 75	
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Philadelphia, 200	
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Sourabaya, 50	
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Tar Salts

New York, 2 t. 2 c.	£60
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Cobalt Oxide—

Rotterdam, 2 c.	£50
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Valencia, 1	32
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Genoa, 1	1½ q. 13
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New York, 5 cs.	97
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Copperas—

Smyrna, 8 t. 3 c.	£13
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Calcutta, 16	8
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Copper Sulphate—

Bordeaux, 1 t.	1 q. £17
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Valparaiso, 10	173
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Victoria, B.C., 10 c.	9
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Bari, 12	2
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Naples, 17	1
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Pisco, 2	8
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Seville, 12	6
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Cette, 346	14
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Constantinople, 2	10
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Galatz, 2	34
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Melbourne, 5	84
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Bombay, 6	10
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Cream of Tartar—

St. John's, 1 c.	£5
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Belize, 1	5
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Disinfectants—

Rangoon, 4 c.	£12
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C. C. Castle, 2 cks.	47
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Oxalic Acid—

Barcelona,	4 t.	16 c.	3 q.	£168
Oporto,		3		6

Paint—

Accra,	1 cs.			
Antigua,	4 cks.	108 kgs.		
Bahia,		10		
Beyrout,		44		
B. Ayres,	6		50 dms.	
Calcutta,				
Campana,	1			
Cape Haitien,	2			
Cape Town,		40		
Colombo,	3		110 pks.	
Curacao,				
Gibraltar,		13		
Half Jack,	1		5 dms.	
Halifax,				
Hamburg, 10 cs.	2			
Havana, 12	1		5 brls.	
Kingston, Ja.,		1		
Lisbon,	30			
Loanda,		1		
Malta,		86		
Manaos,	2			
Maracaibo,		100		
Mossamedes,		80		
New York,	44	220	3	
Old Calabar,		36		
Odessa,	25			
Para,	1 cs.			
Philadelph'ia,	6			
Porto Alegre,		6		
Pt. Said,		9		
Portland, M.,	2		8 cs.	
Rio de Janeiro,				
Rochefort Sur Mer,		6 brls.	3 dms.	
Santos,				
St. Croix,	14	58 kgs.		
Savannah,	4	10		
Sierra Leone,	2		7	
Smyrna,			25 brls.	
Trinidad,		25		
Vera Cruz,	95	65		
Yokohama,			40 dms.	

Paint and Colours—

Syra, 5 cks.

Painters' Colours—

Alexandria,	70 kgs.	203 tins		
Antwerp,		10 brls.		
Belize,		55		
Beyrout,	15 cks.			
Bombay, 41 cs.	503			
Boston,	1	5		
B. Ayres, 100	25	26		
Calcutta,	2	25	30 bgs.	
Cape Town, 1				
Colon,	21			
Halifax,	35			
Hamburg,	7	20	130	
8 brls.				
Kingston, Ja.,			4 brls.	
Lisbon, 1 bx.				
Maranham,		4	11	
Mollendo, 10 cs.				
Montreal, 48		200		
N. Orleans,				
Novo Redondo,		3		
Oporto, 3 pks.				
Para, 17 tcs.	141	40		
Pernambuco,	30	11		
Portland, M.,	1	3		
Rio de Janeiro, 2 cs.			6 dms.	
St. John's, Nfld., 1 ck.	151			
Santos,	2			
Shanghai, 65 cs.				
Volio,	7			

Paraffin Wax—

Patras,	15 cs.			
Smyrna,		5 bgs.		
Syra,	10			
Volio,	10			
Venice,	122			

Phosphorus—

Higo,	1 t.	£250		
Hamburg,		28		
B. Ayres,	5	55		
Vera Cruz,	4	44		

Potassium Bicarbonate—

Syra, 16 c.

Potassium Bichromate—

Nantes,	5 t.	8 c.	3 q.	£160
Santos,	14	1		41
Marseilles,	1	12	3	64
Pireus,	5	2		19

Potassium Carbonate—

New York, 5 t.

in Chlorate—

	1 t.	£40		
	2	10 c.		110
	1			39
	1			47
	20			20

Konigsberg,	1	37		
Tampico,	1	46		
Hamburg,	10	19		
Gothenburg,	9	396		
Rotterdam,	1	47		
Boston,	3	176		
New York,	24	955		
Higo,	15	579		

Potassium Prussiate—

Lisbon,	16 c.	2 q.	£71	
Calcutta,			19	
Higo,	10		40	

Salt—

Amsterdam,	125 t.			
Antwerp,	591	15 c.		
Baltimore,	65			
Barbadoes,	25			
Benin,	31			
Boston,	180			
Calcutta,	2,661			
C. C. Castle,	100			
Copakry,	6	5		
Ghent,	956			
E. London,	1	5		
Egwanga,	40			
Galveston,	1,700			
Gd. Lahou,	19	10		
Halifax,	1	6		
Melbourne,	190			
Montreal,	104			
N. Orleans,	1,500			
Newport News,	274	13		
New York,	100			
Para,	101			
Pernambuco,	14			
Rio de Janeiro,		100 cs.		
Rotterdam,	372			
San Francisco,	724	6	500 bgs.	
Santos,			1 ck.	
Sierra Leone,	44	12		
Valparaiso,	100			
Yokohama,	3	15		

Salt Cake—

Ancona,	10 t.	£15		
Philadelphia,	80	120		
Baltimore,	200	15 c.	260	
Antwerp,	5		6	

Saltpetre—

Parnahyba,	5 c.	£6		
Cartagena,	5 t.	17	1 q.	105
Maranham,		10	2	26
Rouen,	4	18	2	90
Para,	1	15		38
B. Ayres,		17	3	20
St. John's, N.B.,	1			23

Sheep Dip—

Odessa,	1 t.	1 c.	3 q.	£44
Algoa Bay,		5	11	125
M. Video,	4	19		114
B. Ayres,	22	0		550

Soap—

Akassa,	51 bxs.			
Alexandria,		1 cs.		
Algoa Bay,	1,064	40		
Amboina,	500			
Antwerp,	66			
Barbadoes,	2,266			
Barranquilla,		6		
Beira,	120			
Belize,	675			
Bermuda,	51			
Bombay,	1,735			
Boston,		1,000		
B. Ayres,		40		
Calcutta,		62		
Callao,		2		
Canaria,	254			
C. C. Castle,	115			
Cape Town,	1,678			
Cartagena, N.G.,		1		
Colon,	50			
Constantinople,		24		
Curacao,	276			
Delagoa Bay,	212			
Drewin,	50			
Durban,	800			
E. London,	701	55		
Ferrol,	12			
Genoa,	258			
Gibraltar,	25			
Gd. Canary,	30			
Hamburg,	6	88		
Iquitos,	200			
Kingston, Jam.,		1 ck.		
Lagos,		3		
La Guayra,		2		
Las Palmas,	1,381			
Lisbon,		1		
Manaos,	450			
N. York, 100 dms.	50	1,001		
Old Calabar,	800			
Opobo,	1,000			
Para,		75		
Philadelphia,		1,500		
Pireus,		1		

Pt. Said,	2	1 kg.	1	
Pt. Natal,	1,396			
Rangoon,			2	
Rochefort Sur Mer,			312	
St. John's, Nfld.,	40			
San Juan,	100			
St. Nazaire,	230			
Shanghai,	1,000			
Sierra Leone,	100			

Smyrna,

Trieste,		6		
Vigo,		10		
Verviers,	4 kgs.	25		

Soda Alkali—

Barcelona,	85 brls.			
Genoa,	35			
Leghorn,	80			
Odessa,	100			

Soda Ash—

Amsterdam,	50 bgs.			
Antwerp,	50	36 brls.		
Baltimore,	3,840	192 cks.	140 tcs.	
Boston,	2,300	77	134	
B. Ayres,			219 brls.	
Calcutta,	140 kgs.	100		
Cavalla,		12		
Corfu,		100		
Ghent,	50			
Gothenburg,	200	14		
Hamburg,	20 kgs.			
Havana,		20		
M. Video,		10		
Montreal,		14		
N. Orleans,		13		
Newport News,	284			
New York,	5,630	354	147 tcs.	
Para,		6		
Parnahyba,		20		
Philadelphia,	2,440	369	307	

50 crts.

Pireus,				
Singapore,		10		
Stettin,	270			
Syra,		50		
Yokohama,	200			
Zante,		600		

Soda Crystals—

Bahia,		10 cks.		
Boston,	150 bgs.	84	140 brls.	
B. Ayres,		25		
Pernambuco,	20 kgs.			
Philadelphia,		280		
Shanghai,		5		
Vera Cruz,		1		

Sodium Acetate—

Vera Cruz, 3 cks.

Sodium Arseniate—

New York, 3 cks.

Sodium Bicarbonate—

Alexandria,		2 cks.		
Amsterdam,	20 kgs.			
Antwerp,		4		
Baltimore,		110		
Barbadoes,	103			
Barcelona,	275			
Bombay,	200		10 brls.	
Boston,	396			
Brisbane,	40			
Calcutta,	250			
Cartagena, Sp.,	30			
Halifax,	50			
Hamburg,	189	4	5	
Higo,	200			
Hong Kong,	10			
Malta,	15 bgs.			
Mayaguez,	20			
Melbourne,	100			
Montreal,	500			
Newport News,	650	25	10	
Paris,	441	10		
Pernambuco,	10			
Riga,	200			
Rochefort S. Mer,	40			
San Sebastian,		54		
Savannah,	5 bgs.			
Santander,	60			
Seville,	40	5		
Valencia,		9		

Sodium Carbonate—

Rotterdam, 50 brls.

Sodium Chlorate—

Antwerp,	20 kgs.			
Hamburg,	74	5 cks.		
Stettin,	40			

Sodium Silicate—

Ancona,		20 brls.		
Cartagena, Sp.,	5			
Montreal,		20 cks.		

Starch—

Santos, 33 cks.

Strontia—

Rouen, 4 t.

Sulphur—

Philadelphia,	150 t.	3 c.		
Bombay,	7	10		
Para,		10		
Callao,	2	18	2 q.	
Halifax,	50	2		
Boston,	200	3		

Superphosphate—

Valencia,	112 t.	1 c.	1 q.	
Santos,	99	18		
Callera,	100	1		

Tin Oxalate—

Santos, 1 c.

Treacle—

HULL.

ending November 16th.

tinople, 440	15 cks.
burg, 76	1 cs.
ium Sulphate—	
lam, 250 bgs.	
539	
lam, 30 dms.	
ng Powder—	
124 cks.	
39	
2 cks.	
1 cs.	
2 dms.	
25 cks.	
Soda—	
35 dms.	
20	
als (otherwise undescribed)	
1 cs.	
1 ck.	200 kgs.
lam, 20	
agen, 20	
nia, 25 pks. 4	793 slbs.
22 cks. 6	
burg, 68	
rg, 95	130
berg, 6	10 pks.
lam, 47	60
12 btl. 6	3
lm, 31	1 20
eed Oil—	
200 c.	
dam, 971	
272	
agen, 201	
burg, 20	
rg, 1,171	
lam, 807	
200	
lm, 70	
8 brls.	
fs (otherwise undescribed)	
5 cks.	
burg, 1	
rg, 1	
d Oil—	
dam, 90 c.	
1,000	
tinople, 249	
nia, 313	
im, 62	
rg, 453	
lam, 103	
1,016 bgs.	
l White—	
1 ble.	
2 cks.	
rs' Colours—	
20 cks. 11 pks.	9 cs. 106 dms.
dam, 46	
ania, 1	52 2 cs.
k, 2	
eim, 1	
6	
burg, 7	1
rg, 9	5
berg, 6	
ore, 248	
lam, 86	
6	40 dms.
51	10 1
orus—	
agen, 8 cs.	
131 t.	5 cks.
200	
1	
agen, 1 cs.	
20 cs.	
100	
20 cks.	
burg, 10	
olm, 10	

Tar—

Amsterdam,	11 cks.
Copenhagen,	10
Danzig,	6
Rotterdam,	5

Treacle—

Abo,	55 brls.
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Ultramarine—

Antwerp,	6 cs.
Amsterdam,	4
Harlingen,	1

Varnish—

Antwerp,	2 cks.
Danzig,	3 cs.
Gothenburg,	1 1
Ghent,	1 1
Hamburg,	1

Whiting—

Hamburg,	20 bgs.
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GLASGOW.

Week ending November 21st.

Albumen—

U.S.A.,	19½ c.
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Ammonium Sulphate—

Philadelphia,	12 t. 6½ c.
U.S.A.,	50 4
Calcutta,	2 12½
Hamburg,	50 16

Bleaching Powder—

Melbourne,	7 t. 7 c.
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Caustic Soda—

U.S.A.,	29 t. ¼ c.
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Coal Products—

Benzol	
Hamburg,	10 t.
Pitch	
Calcutta,	90 t. 17 c.
Canada,	
U.S.A.,	336
Sables D'Olonne,	701
Madras,	
Penang,	
Konigsberg,	83 10

Tar

Calcutta,	95 t. 14 c.
Canada,	
Adelaide,	
Madras,	
Penang,	
Straits Settlements,	
U.S.A.,	
Konigsberg,	23 t.
Tar Oil	
Konigsberg,	45 t.

Coal Tar Products (otherwise un-

described)—	
Rotterdam,	5 t.

Cod Oil—

Melbourne,	£91
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Copperas—

Calcutta,	£42
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Cream of Tartar—

Queensland,	£57
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Dyestuffs—

Canada,	£164
New York,	98
Christiania,	£17. 10s.
Melbourne,	£109
U.S.A.,	164

Fustic Extract

Canada,	£20
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Logwood

Canada,	£122
Melbourne,	41

Gelatine—

Canada,	£131
Algoa Bay,	25
U.S.A.,	209

Iodine—

Rotterdam,	£460
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Iron Liquor—

Canada,	£69
Christiania,	10

Lead Acetate—

Bombay,	£97
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Linseed Oil—

Canada,	2 t. 1¾ c.
Rio de Janeiro,	8 13¾
Adelaide,	1 13¾
Bahia,	1 4¾
Hobart,	3 8
Brisbane,	7 2¾
Bundaberg,	16
Manila,	6 5
Singapore,	3 16

Litharge—

Johannesburg,	£21
Calcutta,	21

Magnesium Sulphate—

Christiania,	2 t.
Adelaide,	£39. 10s.

Manure—

Penang,	51 t. 8½ c.
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Paint—

Havana,	£62
Adelaide,	110
Cape Town,	30
Brisbane,	172
Colombo,	55
Philippine Ids.,	165
Pt. Said,	24

Painters' Colours—

Calcutta,	£335
Cape Town,	18
Melbourne,	22
Bombay,	151
Brisbane,	180
Bundaberg,	52
Manila,	329

Paraffin Wax—

Antwerp,	£33
Madras,	27
Singapore,	21

Potassium Bichromate—

Antwerp,	£928
Hiogo,	209
Amsterdam,	198
Melbourne,	54
Rotterdam,	206
Bombay,	86
Boston,	163

Potassium Prussiate—

U.S.A.,	9 t.
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Rosin Oil—

Melbourne,	£25
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Soap—

Algoa Bay,	2 t. 4½ c.
Newfoundland,	5 13
Bombay,	3 12½

Sodium Bichromate—

Boston,	1 t. 11 c.
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Tallow—

Rotterdam,	3 t. 13 c.
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Treacle—

King Wm.'s Town,	2 t. 10 c.
Christiania,	77 9

Turpentine—

Manila,	£85
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Varnish—

Newfoundland,	£22
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White Lead—

Portugal,	£2
Brisbane,	363

Wood Pulp—

U.S.A.,	10 t.
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TYNE.

Week ending November 16th.

Alkali—

Rotterdam,	7 t. 15 c.
Riga,	80 19
Bergen,	2 17
Amsterdam,	46 16

Ammonia—

Aarhus,	1 t. 2 c.
Barcelona,	2 2

Antimony—

Antwerp,	1 t.
Hamburg,	3
Barcelona,	2
Rotterdam,	5
Riga,	1

Arsenic—

Barcelona,	14 c.
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Barium—

Rouen,	5 t. 3 c.
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Barium Binoxide—

Dunkirk,	5 t. 2 c.
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Barium Carbonate—

Dunkirk,	5 t.
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Bleaching Powder—

Genoa,	10 t. 4 c.
Antwerp,	87 14
Hamburg,	87 9
Christiania,	37 8
Rotterdam,	12 1
Copenhagen,	16 5
Bergen,	2 12
Amsterdam,	40 19
Gothenburg,	40 4

Borax—

Aarhus,	1 t. 3 c.
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Caustic Soda—

Flensburg,	4 t. 18 c.
Odessa,	10 3
Antwerp,	2 18

Hamburg,

Aarhus,	9 13
Barcelona,	1 4
Rotterdam,	20 6
Copenhagen,	10 3
Valencia,	20 15
Gothenburg,	16 18
50	

Iron Oxide—

Hamburg,	9 t. 2 c.
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Litharge—

Riga,	19 t. 7 c.
Amsterdam,	10

Magnesia—

Antwerp,	10 c.
Hamburg,	1 t. 15
Barcelona,	11

Manure—

Barcelona,	25 t.
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Naphthaline—

Riga,	20 t. 6 c.
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Paint—

Antwerp,	4 t.
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Phosphorus—

Barcelona,	2 t. 1 c.
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Saltpetre—

Aarhus,	3 t.
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Slag—

Rotterdam,	82 t.
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Soda—

Hamburg,	29 t. 2 c.
Christiania,	7 7
Aarhus,	24 11
Rotterdam,	27 5
Pernau,	20
Amsterdam,	48 10

Soda Ash—

Bergen,	5 t.
Gothenburg,	113 14 c.

Sodium Silicate—

Valencia,	4 t. 13 c.
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Sulphur—

Christiania,	215 t.
Gothenburg,	60

Tallow—

Genoa,	17 t. 2 c.
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White Lead—

Odessa,	5 t. 2 c.
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GOOLE.

Week ending November 13th.

Alkali—

Rotterdam,	1 dm.
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Benzol—

Boulogne,	25 cks.
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Chemicals (otherwise undescribed)

Antwerp,	1 ck.
Rotterdam,	60

Coal Products (otherwise undes.)—

Antwerp,	2 cks.
Boulogne,	3 2 cs.
Ghent,	3 7
Hamburg,	40
Rotterdam,	112

Colours—

Antwerp,	1 ck.
Boulogne,	6 2 cs.
Ghent,	1 dm.

Dyestuffs (otherwise undescribed)

Hamburg,	101 cks.
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Manure—

Antwerp,	287 bgs.
Ostend,	100
Ghent,	488

Pitch—

Antwerp,	241 t.
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GRIMSBY.

Week ending November 16th.

Alkali—

Hamburg,	20 cs.
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Chemicals (otherwise undescribed)

Malmo,	20 cks.
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Coal Products (otherwise undes.)—

Antwerp,	1 dm.
Dieppe,	64 cks.
Hamburg,	17 pkgs.

Colours—

Oxalic Acid—

Barcelona, 4 t. 16 c. 3 q. £168
 Oporto, 3 6

Paint—

Accra, 1 cs.
 Antigua, 4 cks. 198 kgs.
 Bahia, 10
 Beyrou, 6 44
 B. Ayres, 50 dms.
 Calcutta, 1
 Campana, 2
 Cape Haitien, 2
 Cape Town, 40
 Colombo, 3
 Curacao, 110 pkgs.
 Gibraltar, 13
 Half Jack, 1
 Halifax, 5 dms.
 Hamburg, 10 cs. 2
 Havana, 12 1
 Kingston, Ja., 1
 Lisbon, 30
 Loanda, 1
 Malta, 86
 Manao, 2
 Maracaibo, 100
 Mossamedes, 80
 New York, 44 220 3
 Old Calabar, 36
 Odessa, 25
 Para, 1 cs.
 Philadelphia, 6
 Porto Alegre, 6
 Pt. Said, 9
 Portland, M., 2
 Rio de Janeiro, 8 cs.
 Rochefort Sur Mer, 6 brls. 3 dms.
 Santos, 50 bgs.
 St. Croix, 2
 Savanilla, 14 58 kgs.
 Sierra Leone, 4 10
 Smyrna, 2
 Trinidad, 7
 Vera Cruz, 25
 Yokohama, 65 25 brls.
 40 dms.

Paint and Colours—

Syria, 5 cks.

Painters' Colours—

Alexandria, 70 kgs. 203 tins
 Antwerp, 10 brls.
 Belize, 55
 Beyrou, 15 cks.
 Bombay, 41 cs. 503
 Boston, 1 5
 B. Ayres, 100 25 26
 Calcutta, 2 25 20 bgs.
 Cape Town, 1
 Colon, 21
 Halifax, 35
 Hamburg, 7 20 130
 8 brls.
 Kingston, Ja., 4 brls.
 Lisbon, 1 bx.
 Maranham, 4 11
 Mollendo, 10 cs.
 Montreal, 48 200
 N. Orleans, 3
 Novo Redondo, 3
 Oporto, 3 pkgs.
 Para, 17 tcs. 141 40
 Pernambuco, 30 11
 Portland, M., 1 3
 Rio de Janeiro, 2 cs.
 St. John's, Nfld., 1 ck. 151
 Santos, 2
 Shanghai, 65 cs.
 Volo, 7

Paraffin Wax—

Patras, 15 cs.
 Smyrna, 5 bgs.
 Syria, 10
 Volo, 16
 Venice, 122

Phosphorus—

Hio, 1 t. £250
 Hamburg, 2 c.
 B. Ayres, 5 55
 Vera Cruz, 4 44

Potassium Bicarbonate—

Syria, 16 c. £40

Potassium Bichromate—

Nantes, 5 t. 8 c. 3 q. £160
 Santos, 14 1 41
 Marseilles, 1 12 3 64
 Piræus, 5 2 12

Potassium Carbonate—

Newport News, 5 t. 5 c. 3 q. £113

Potassium Chlorate—

Vera Cruz, 1 t. £40
 Genoa, 2 10 c. 110
 Cape Town, 1 39
 Antwerp, 1 47
 B. Ayres, 20 20

Konigsberg, 1 37
 Tampico, 1 46
 Hamburg, 10 19
 Gothenburg, 9 396
 Rotterdam, 1 47
 Boston, 3 15 176
 New York, 24 1 955
 Hio, 15 579

Potassium Prussiate—

Lisbon, 16 c. 2 q. £71
 Calcutta, 5 19
 Hio, 10 40

Salt—

Amsterdam, 125 t.
 Antwerp, 591 15 c.
 Baltimore, 65
 Barbadoes, 25
 Benin, 31
 Boston, 180
 Calcutta, 2,661
 C. C. Castle, 100
 Conakry, 6 5
 Copenhagen, 956
 E. London, 1 5
 Egwanga, 40
 Galveston, 1,700
 Ghent, 460
 Gd. Lahou, 19 10
 Halifax, 1 6
 Melbourne, 190
 Montreal, 104
 N. Orleans, 1,500
 Newport News, 274 13
 New York, 100
 Para, 101
 Pernambuco, 14
 Rio de Janeiro, 100 cs.
 Rotterdam, 372
 San Francisco, 724 6 500 bgs.
 Santos, 1 ck.
 Sierra Leone, 44 12
 Valparaiso, 100
 Yokohama, 3 15

Salt Cake—

Ancona, 10 t. £15
 Philadelphia, 80 120
 Baltimore, 200 15 c. 260
 Antwerp, 5 6

Saltpetre—

Parnahyba, 5 c. 46
 Carthage, 5 t. 17 1 q. 105
 Maranham, 10 2 26
 Rouen, 4 18 2 90
 Para, 1 15 38
 B. Ayres, 17 3 20
 St. John's, N.B., 1 23

Sheep Dip—

Odessa, 1 t. 1 c. 3 q. £44
 Algoa Bay, 5 11 125
 M. Video, 4 19 114
 B. Ayres, 22 0 550

Soap—

Akassa, 51 bxs.
 Alexandria, 1 cs.
 Algoa Bay, 1,064 40
 Amboina, 500
 Antwerp, 66
 Barbadoes, 2,266
 Barranquilla, 6
 Beira, 120
 Belize, 675
 Bermuda, 51
 Bombay, 1,735
 Boston, 1,000
 B. Ayres, 60
 Calcutta, 42
 Callao, 2
 Canaria, 254
 C. C. Castle, 115
 Cape Town, 1,678
 Cartagena, N.G., 1
 Colon, 50
 Constantinople, 24
 Curacao, 276
 Delagoa Bay, 212
 Drewin, 50
 Durban, 800
 E. London, 701 55
 Ferrol, 12
 Genoa, 258
 Gibraltar, 25
 Gd. Canary, 30
 Hamburg, 6 88
 Iquitos, 200
 Kingston, Jam., 1 ck. 1
 Lagos, 3
 La Guayra, 2
 Las Palmas, 1,381
 Lisbon, 1
 Manao, 450
 N. York, 100 dms. 50 1,001
 Old Calabar, 800
 Opobo, 1,000
 Para, 75
 Philadelphia, 1,500
 Piræus, 1

Pt. Said, 2 1 kg. 1
 Pt. Natal, 1,396
 Rangoon, 2
 Rochefort Sur Mer, 312
 St. John's, Nfld., 40
 San Juan, 100
 St. Nazaire, 230
 Shanghai, 1,000
 Sierra Leone, 100

Soda Alkali—

Barcelona, 85 brls.
 Genoa, 15
 Leghorn, 80
 Odessa, 100
 Smyrna, 2 brls.
 Trinidad, 6
 Trieste, 10
 Vigo, 4 kgs. 25
 Verviers, 25

Soda Ash—

Amsterdam, 50 bgs.
 Antwerp, 50 36 brls.
 Baltimore, 3,840 192 cks. 140 tcs.
 Boston, 2,300 77 134
 B. Ayres, 219 brls.
 Calcutta, 140 kgs. 100
 Cavalla, 12
 Corfu, 100
 Ghent, 50
 Gothenburg, 200 14
 Hamburg, 20 kgs.
 Havana, 20
 M. Video, 10
 Montreal, 14
 N. Orleans, 13
 Newport News, 284
 New York, 5,630 354 147 tcs.
 Para, 6
 Parnahyba, 20
 Philadelphia, 2,440 369 307
 50 crts.

Soda Crystals—

Bahia, 20 cks.
 Boston, 150 bgs. 84 140 brls.
 B. Ayres, 25
 Pernambuco, 20 kgs. 280
 Philadelphia, 5
 Shanghai, 1
 Vera Cruz, 1

Sodium Acetate—

Vera Cruz, 3 cks.

Sodium Arseniate—

New York, 3 cks.

Sodium Bicarbonate—

Alexandria, 2 cks.
 Amsterdam, 20 kgs.
 Antwerp, 4
 Baltimore, 110
 Barbadoes, 100
 Barcelona, 275 10 brls.
 Bombay, 200
 Boston, 396
 Brisbane, 40
 Calcutta, 250
 Cartagena, Sp., 30
 Halifax, 50
 Hamburg, 182 4 5
 Hio, 200
 Hong Kong, 10
 Malta, 15 bgs.
 Mayaguez, 20
 Melbourne, 100
 Montreal, 500 10
 Newport News, 650 25
 Paris, 441 10
 Pernambuco, 10
 Riga, 200
 Rochefort S. Mer, 40
 San Sebastian, 54
 Savanilla, 5 bgs.
 Santander, 60
 Seville, 40 5
 Valencia, 9

Sodium Carbonate—

Rouen, 50 brls.

Sodium Chlorate—

Antwerp, 20 kgs.
 Hamburg, 74 5 cks.
 Stettin, 40

Sodium Silicate—

Ancona, 20 brls.
 Cartagena, Sp., 5

Sodium Sulphate—

Montreal, 20 cks.

Starch—

Santos, 33 cks. 8 cs.

Strontia—

Rouen, 4 t. 17 c. £50

Sulphur—

Philadelphia, 150 t. 3 c. £4
 Bombay, 7 10
 Para, 10
 Callao, 2 18 2 1/2
 Halifax, 50 2
 Boston, 200 6

Superphosphate—

Valencia, 112 t. 1 c. 1 q. £1
 Santos, 99 18
 Cullera, 100 1 1 2

Tin Oxalate—

Santos, 1 c. 1 q.

Treacle—

Antwerp, 10 tcs. 10 cks. 101 hl. per
 Copenhagen, 25 brls.
 Ghent, 55
 Gothenburg, 20
 Hamburg, 30 5 tcs.
 Rotterdam, 25

Turpentine—

Antigua, 20 dms.
 Benquella, 7
 Rochefort Sur Mer, 8 brls.

Varnish—

Bari, 3 cks. 8 cs. 2 dms.
 Manila, 20
 San Sebastian, 4 brls.

White Lead—

B. Ayres, 30 cks.

Zinc Chloride—

Ferrol, 9 c. 1 q.

Zinc Sulphate—

Montreal, 1 t. 3 c.

MANCHESTER

Week ending November 20th.

Aniline Colours—

Rouen, 2 cks. 4 cs.
 Barcelona, 1 pcl.

Benzol—

Treport, 10 dms.

Carbolic Acid—

Halifax, 1 ck. 12 cs.
 Rotterdam, 16
 Treport, 4 128 brls.

Chemicals (otherwise undesignated)

Alexandria, 20 cks.
 Antwerp, 13 1 cs.
 Bombay, 91 brls.
 Cairo, 100
 Tunis, 6
 Valencia, 1

Coal Tar Products (otherwise undesignated)

Rouen, 118 cks.
 Barcelona, 1
 Treport, 30

Extracts—

Rouen, 4 cks.

Glue—

Barcelona, 1 ck.
 Rotterdam, 14

Lime—

Treport, 1 ck.

Linseed Oil—

Alexandria, 30 brls.
 Beyrou, 14
 Sfax, 2
 Gibraltar, 1 dm.

Oxalic Acid—

Barcelona, 8 cks.

Paint and Colours—

Gibraltar, 1 ck. 1 dm. 1 kg.

Painters' Colours—

Malta, 3 cks.

Pitch—

Antwerp, 102 t. 16 c.

Soap—

S. John's, Nfld., 140 bxs.

Tallow—

Gibraltar, 1 ck.

Tar Oil—

Treport, 10 dms.

Turpentine—

Beyrou, 3 brls.

Varnish—

Melbourne, 4 cs.

Zinc Chloride—

Bombay, 5 cks.

HULL.

ending November 16th.

Antinople,	440	15 cks.
Burg,	76	1 cs.
ium Sulphate—	36	
dam,	250 bgs.	
k,	539	
dam,	32 dms.	
ing Powder—	124 cks.	
	39	
ania,	2 cks.	
c Acid—	1 cs.	
p,	2 dms.	
lam,	25 cks.	
Soda—	35 dms.	
lam,	20	
als (otherwise undescribed)	1 cs.	
p,	1 ck.	200 kgs.
dam,	20	
agen,	25 pks.	793 slbs.
ania,	22 cks.	6
burg,	68	
rg,	25	130
berg,	6	10 pks.
dam,	47	60
	12	3
12 btl.	6	12
olm,	31	1
seed Oil—		
rp,	200 c.	
dam,	971	
n,	272	
agen,	201	
iburg,	20	
rg,	1,171	
dam,	807	
	200	
olm,	70	
te—		
agen,	8 brls.	
iffs (otherwise undescribed)	5 cks.	
rp,	1	
iburg,	1	
rg,	1	
d Oil—		
rdam,	90 c.	
n,	1,000	
ntinople,	249	
ania,	313	
eim,	62	
rg,	453	
dam,	103	
e—		
	1,016 bgs.	
d White—		
	1 ble.	
	2 cks.	
rs' Colours—		
rp,	20 cks.	11 pks.
rdam,	46	106 dms.
ania,	1	52
rk,	2	2 cs.
beim,		1
burg,	6	
nburg,	7	1
rg,	9	5
sberg,	6	
ork,	248	
h,	85	
dam,	6	40 dms.
	51	10
horus—		
agen,	8 cs.	
rp,	131 t.	5 cks.
rk,	200	1
agen,	1 cs.	
agen,	20 cs.	
h,	100	
—		
h,	20 cks.	
nburg,	10	
olm,	10	

Tar—

Amsterdam,	11 cks.
Copenhagen,	10
Danzig,	6
Rotterdam,	5

Treacle—

Abo,	55 brls.
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Ultramarine—

Antwerp,	6 cs.
Amsterdam,	4
Harlingen,	1

Varnish—

Antwerp,	2 cks.
Danzig,	3 cs.
Gothenburg,	1
Ghent,	1
Hamburg,	1

Whiting—

Hamburg,	20 bgs.
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GLASGOW.

Week ending November 21st.

Albumen—

U.S.A.,	19½ c.
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Ammonium Sulphate—

Philadelphia,	12 t.
U.S.A.,	50
Calcutta,	2
Hamburg,	50

Bleaching Powder—

Melbourne,	7 t.
	7 c.

Caustic Soda—

U.S.A.,	29 t.
	¾ c.

Coal Products—

Benzol	
Hamburg,	10 t.
Pitch	
Calcutta,	90 t.
Canada,	17 c.
U.S.A.,	108
Antwerp,	336
Sables D'Olonne,	701
Madras,	27
Penang,	23
Konigsberg,	83
	10
Tar	
Calcutta,	95 t.
Canada,	14 c.
Adelaide,	75
Madras,	50
Penang,	108
Straits Settlements,	50
U.S.A.,	112
Konigsberg,	23 t.
Tar Oil	
Konigsberg,	45 t.

Coal Tar Products (otherwise un-

described) —	
Rotterdam,	5 t.

Cod Oil—

Melbourne,	£91
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Copperas—

Calcutta,	£42
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Cream of Tartar—

Queensland,	£57
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Dyestuffs—

Extracts	
Canada,	£164
New York,	98
Christiania,	£17. 10s.
Melbourne,	£109
U.S.A.,	164

Fustic Extract

Canada,	£20
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Logwood

Canada,	£122
Melbourne,	41

Gelatine—

Canada,	£131
Algoa Bay,	25
U.S.A.,	209

Iodine—

Rotterdam,	£460
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Iron Liquor—

Canada,	£69
Christiania,	10

Lead Acetate—

Bombay,	£97
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Linseed Oil—

Canada,	2 t.
Rio de Janeiro,	8
Adelaide,	1
Bahia,	1
Hobart,	3
Brisbane,	7
Bundaberg,	6
Manila,	6
Singapore,	3

Litharge—

Johannesburg,	£21
Calcutta,	21

Magnesium Sulphate—

Christiania,	2 t.
Adelaide,	£39. 10s.

Manure—

Penang,	51 t.
	8½ c.

Paint—

Havana,	£62
Adelaide,	110
Cape Town,	30
Brisbane,	172
Colombo,	55
Philippine Ids.,	105
Pt. Said,	24

Painters' Colours—

Calcutta,	£335
Cape Town,	18
Melbourne,	22
Bombay,	151
Brisbane,	180
Bundaberg,	52
Manila,	329

Paraffin Wax—

Antwerp,	£33
Madras,	27
Singapore,	21

Potassium Bichromate—

Antwerp,	£928
Hiogo,	209
Amsterdam,	195
Melbourne,	54
Rotterdam,	206
Bombay,	86
Boston,	163

Potassium Prussiate—

U.S.A.,	9 t.
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Rosin Oil—

Melbourne,	£25
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Soap—

Algoa Bay,	2 t.
Newfoundland,	5
Bombay,	3
	12½

Sodium Bichromate—

Boston,	1 t.
	11 c.

Tallow—

Rotterdam,	3 t.
	13 c.

Treacle—

King Wm.'s Town,	2 t.
Christiania,	77
	9

Turpentine—

Manila,	£85
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Yarnish—

Newfoundland,	£22
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White Lead—

Portugal,	£2
Brisbane,	363

Wood Pulp—

U.S.A.,	10 t.
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TYNE.

Week ending November 16th.

Alkali—

Rotterdam,	7 t.
Riga,	80
Bergen,	2
Amsterdam,	46
	16

Ammonia—

Aarhus,	1 t.
Barcelona,	2
	2

Antimony—

Antwerp,	1 t.
Hamburg,	3
Barcelona,	2
Rotterdam,	5
Riga,	1

Arsenic—

Barcelona,	14 c.
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Barium—

Rouen,	5 t.
	3 c.

Barium Binoxide—

Dunkirk,	5 t.
	2 c.

Barium Carbonate—

Dunkirk,	5 t.
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Bleaching Powder—

Genoa,	10 t.
Antwerp,	87
Hamburg,	87
Christiania,	37
Rotterdam,	12
Copenhagen,	10
Bergen,	2
Amsterdam,	40
Gothenburg,	40

Borax—

Aarhus,	1 t.
	3 c.

Caustic Soda—

Flensburg,	4 t.
Odessa,	10
Antwerp,	2
	18

Hamburg,

Aarhus,	9
Barcelona,	1
Rotterdam,	20
Copenhagen,	10
Valencia,	20
Gothenburg,	16
	18
	50

Iron Oxide—

Hamburg,	9 t.
	2 c.

Litharge—

Riga,	19 t.
Amsterdam,	10

Magnesia—

Antwerp,	10 c.
Hamburg,	1 t.
Barcelona,	11
	15

Manure—

Barcelona,	25 t.
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Naphthaline—

Riga,	20 t.
	6 c.

Paint—

Antwerp,	4 t.
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Phosphorus—

Barcelona,	2 t.
	1 c.

Saltpetre—

Aarhus,	3 t.
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Slag—

Rotterdam,	82 t.
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Soda—

Hamburg,	29 t.
Christiania,	7
Aarhus,	24
Rotterdam,	27
Pernau,	20
Amsterdam,	48
	10

Soda Ash—

Bergen,	5 t.
Gothenburg,	113
	14 c.

Sodium Silicate—

Valencia,	4 t.
	13 c.

Sulphur—

Christiania,	215 t.
Gothenburg,	60

Tallow—

Genoa,	17 t.
	2 c.

White Lead—

Odessa,	5 t.
	2 c.

GOOLE.

Week ending November 13th.

Alkali—

Rotterdam,	1 dm.
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Benzol—

Boulogne,	25 cks.
-----------	---------

Chemicals (otherwise undescribed)

Antwerp,	1 ck.
Rotterdam,	60

Coal Products (otherwise undes.)—

Antwerp,	2 cks.
Boulogne,	3
Ghent,	3
Hamburg,	4
Rotterdam,	112

Colours—

Antwerp,	1 ck.
Boulogne,	6
Ghent,	1 dm.

Dyestuffs (otherwise undescribed)

Hamburg,	101 cks.
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Manure—

Antwerp,	287 bgs.
Ostend,	100
Ghent,	488

Pitch—

Antwerp,	241 t.
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GRIMSBY.

Week ending November 16th.

Alkali—

Hamburg,	20 cs.
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Chemicals (otherwise undescribed)

Malmo,	20 cks.
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PRICES CURRENT.

WEDNESDAY, Nov. 27/11

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	& 9/-
Glacial	per lb.	0	15 0
Arsenic S.G., 2000°	per lb.	0	15 0
Fluoric	per lb.	0	0 3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
(Cylinder), 30° Tw.	per lb.	0	3 0
Nitric 80° Tw.	per lb.	0	0 1 1/2
Nitrous	per lb.	0	0 1 1/4
Oxalic	nett	0	0 3 1/4
Phosphoric, 1750°	per lb.	0	1 1
Picric	per lb.	0	0 10
Sulphuric (fuming 50 %	per ton	15	10 0
" (monohydrate)	per lb.	5	10 0
" (Pyrites, 168°)	per lb.	3	0 0
" 150°	per lb.	1	5 0
" (free from arsenic, 145°)	per lb.	1	7 6
Sulphurous (solution) S.G. 1025	per lb.	3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric	per lb.	0	1 2
Arsenic, white powdered	nett per ton	15	15 0
Alum (loose lump)	per lb.	4	12 6
Alumina Sulphate (pure)	per lb.	4	12 6
Aluminoferrous	per lb.	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	per lb.	0	1 3
" 88° = 28° B.	per lb.	0	0 3
" = 24° B.	per lb.	0	0 2 1/4
" Carbonate	nett	0	0 3 1/4
" Muriate	per ton	22	15 0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	& 37/-
" Nitrate	per ton	38	10 0
" Phosphate	per lb.	0	0 6 1/4
" Sulphate (grey) London	per ton	8	15 0
" (grey) Hull	per lb.	8	15 0
Aniline Oil (pure)	per lb.	0	0 6
Aniline Salt	per lb.	0	0 5 1/4
Antimony	per ton	30	15 0
" (tartar emetic)	per lb.	0	0 7
" (golden sulphide)	per lb.	0	0 10
Barium Chloride	per ton	6	7 6
" Carbonate (native)	per lb.	3	5 0
" Sulphate (native levigated)	per lb.	42/6	to 65/-
Bleaching Powder, 35 %	nett	7	0 0
" Liquor, 7 %	per lb.	3	10 0
Bisulphide of Carbon	per lb.	13	5 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	per ton	15/-	to 30/-
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 %	nett per lb.	0	0 7 1/4
Magenta	per lb.	0	3 9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0 11 1/2
Benzol, 90 % nominal	per gallon	0	1 7
50/90	per lb.	0	1 6
Carbolic Acid (crystallised 40°)	per lb.	0	0 6
" (crude 60°)	per gallon	0	1 7 1/2
Creosote (ordinary)	per lb.	0	0 1 1/2
" (filtered for Lucigen light)	per lb.	0	0 2
Crude Naphtha 30 % @ 120° C.	per lb.	0	0 5 1/2
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	per lb.	1	15 0
Solvent Naphtha, 90 % at 160°	per gallon	0	1 4
" Lucigen " and " Wells " Oils	per lb.	0	0 2 1/2
Copper	per ton	43	7 6
" Sulphate	per lb.	16	5 0
" Oxide (copper scales)	per lb.	41	10 0
Glycerine (crude)	per lb.	25	0 0
" (distilled S.G. 1250°)	per lb.	60	0 0
Iodine	nett, per oz.	0	0 9
Iron Sulphate (copperas)	per ton	1	5 0
" Sulphide (antimony slag)	per lb.	2	0 0
Lead (sheet) for cash	per lb.	12	17 6
" Litharge Flake (ex ship)	per lb.	13	15 0
" Acetate (white ")	per lb.	22	0 0
" " (brown ")	per lb.	15	0 0
" Carbonat. (white lead) pure	per lb.	16	0 0
Nitrate	per lb.	19	0 0

Lime, Acetate (brown) (ex ship)	per ton	4	0 0
" (grey)	per ton	7	0 0
Magnesium (ribbon and wire)	per oz.	0	0 0
" Chloride (ex ship)	per ton	1	0 0
" Carbonate	per cwt.	1	0 0
" Hydrate	per ton	17	0 0
" Sulphate (Epsom Salts)	per ton	3	0 0
Manganese, Sulphate	per ton	17	0 0
" Borate	per cwt.	2	0 0
" Ore, 70 %	per ton	3	0 0
Methylated Spirit, 61° O.P.	per gallon	0	0 0
Naphtha (Wood), Solvent	per ton	0	0 0
" Miscible, 60° O.P.	per ton	0	0 0
Oils:—			
Cotton-seed	per ton	18	0 0
Linseed	per ton	21	0 0
Petroleum, American	per gallon	0	0 0
Stearine	per ton	24	0 0
Phosphorus (yellow)	per lb.	0	0 0
" (red)	per lb.	0	0 0
Potassium (metal)	per oz.	0	0 0
" Bichromate	nett	per lb.	0 0
" Carbonate, 90% (ex ship)	per ton	17	0 0
" Chlorate	per lb.	0	0 0
" Cyanide, 98%	per lb.	0	0 0
" Hydrate (Caustic Potash) 90 %	per ton	14	0 0
" " (Caustic Potash) 75/80 %	per ton	21	0 0
" " (Caustic Potash) 70/75 %	per ton	20	0 0
" Nitrate (refined)	per cwt.	1	0 0
" Permanganate	per cwt.	2	0 0
" Prussiate Yellow	per lb.	0	0 0
" Sulphate, 90 % (ex ship)	per ton	9	0 0
" Muriate, 80 % (do.)	per ton	8	0 0
Silver (metal)	per oz.	0	0 0
" Nitrate	per lb.	0	0 0
Sodium (metal)	per lb.	0	0 0
" Carb. (refined Soda-ash) 48 %	nett per ton	4	0 0
" " (Caustic Soda-ash) 48 %	per ton	4	0 0
" " (Carb. Soda-ash) 48 %	per ton	4	0 0
" " (Alkali) 58 %	per ton	3	0 0
" " (Soda Crystals)	per ton	2	0 0
" Acetate (ex-ship)	per ton	14	0 0
" Arseniate, 45 %	per lb.	11	0 0
" Chlorate	per lb.	0	0 0
" Borate (Borax)	net, per ton	19	0 0
" Bichromate	per lb.	0	0 0
" Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	per ton	9	0 0
" " (74 % Caustic Soda)	per ton	8	0 0
" " (70 % Caustic Soda)	per ton	7	0 0
" " (60 % Caustic Soda)	per ton	6	0 0
" " (60 % Caustic Soda, cream) (f.o.b.)	per ton	6	0 0
" Bicarbonate	per ton	6	0 0
" Hyposulphite	per ton	5	0 0
" Manganate, 30%	per ton	16	0 0
" Nitrate (95 % ex-ship Liverpool)	per cwt.	0	0 0
" Nitrite, 98 %	per ton	30	0 0
" Phosphate	per ton	13	0 0
" Silicate (glass)	per ton	4	0 0
" " (liquid, 100° Tw.)	per ton	3	0 0
" Stannate, 40 %	per cwt.	3	0 0
" Sulphate (Salt-cake)	per ton	1	0 0
" " (Glauber's Salts)	per ton	1	0 0
" Sulphide	per ton	8	0 0
" Sulphite	per ton	5	0 0
Strontium Hydrate, 100%	per lb.	0	0 0
Sulphocyanide Ammonium, 95 %	per lb.	0	0 0
" Barium, 95 %	per lb.	0	0 0
" Potassium	per lb.	0	0 0
Sulphur (Flowers)	per ton	7	0 0
" (Roll Brimstone)	per ton	5	0 0
" Brimstone: Best Quality	per ton	5	0 0
Superphosphate of Lime (26%	per ton	23	0 0
Tallow	per lb.	0	0 0
Tin Crystals	per lb.	0	0 0
" English Ingots	per ton	67	0 0
Zinc (Spelter)	per ton	15	0 0
" Chloride (solution, 100° Tw.)	per ton	5	0 0

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SATURDAY, DECEMBER 7, 1895.

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London, E.C., and Millwall, London, E.

ANTED, a WORKING FOREMAN, who can
be charge of small Sulphuric Acid Plant in Glamorganshire, on contract
to.—State experience, references and terms, to "T. H.," No. 911, care
DEACON'S, Leadenhall-street, London, E.C.

ANNUAL SPECIAL ISSUE, 1896.

ual Double New Year Number of the CHEMICAL TRADE
Journal, to be issued on January 18th, 1896, will contain a number
of technical articles, in addition to the other special features
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ALKALI MANUFACTURE BY THE HARGREAVES-BIRD SYSTEM OF ELECTROLYSIS.

THE name of James Hargreaves, of Widnes, is not to be
lightly regarded in the technology of matters chemical.
Well known though the Hargreaves Salt-cake Process now
is, there are many who think that its greatest renown is
reserved for that halcyon future when, chlorine and caustic
being made direct from salt, the Weldon process shall be as the
mummies of Egypt, and the Deacon appear as a mere tem-
porary device to arrest for a little longer the decrees of
fate. To hasten the coming of that time when salt will only
be decomposed by sulphur in order to obtain salt cake and
hydrochloric acid for their own sakes, Mr. Hargreaves has,
during the last few years, been devoting himself to the solu-
tion of the electrolytic puzzle, and we take it that his results
up to the present time are embodied in the paper which he
read before the London Section of the Society of Chemical
Industry on Monday last. This paper will no doubt be
printed *in extenso* in the valuable journal of the society in due
course, but we are permitted to give our readers a short
abstract, which appears elsewhere in our columns.

We must confess to a certain amount of disappointment
in respect to Mr. Hargreaves' paper. The advance in
theoretical and prospectus electrolysis has been so marked
during the last few years that it almost looks to us as if Mr.
Hargreaves was scarcely keeping up the continuity of the
progress. We have become so accustomed to hear that in-
ventor A has knocked off 25% of the cost of production, that
inventor B has knocked off 50%, that inventor C has brought
the economy up to 75%, that we had expected Mr. Hargreaves
to go the proverbial "one better," and announce that he
could make bleach and caustic for nothing at all.

It may be interesting at this stage to remind our readers
that the Chairman of the Electro-Chemical Company at a
recent meeting of shareholders announced that they were
"making purer and better bleach and caustic than by any of
the older processes," and moreover "at something like 50%
less cost." This statement would no doubt come with
startling force upon those sceptical minds whose faith had
been weak in such an early realisation of the anticipations
of the promoters of that company. But assuming the correct-
ness of this statement, the affairs of the Electro-Chemical
Company become matters of fact with which it would be
scarcely fair to compare the figures of Mr. Hargreaves. We
propose, as a course that may have more interest to our
readers, to compare these figures with those that are avail-
able relating to the recently formed Castner-Kellner
Company.

Mr. Hargreaves anticipates the possibility of making bleach
and soda ash for £2. 12s. per ton. Assuming, as in the case
of our recent criticisms of the Castner-Kellner process, that
theoretical yields are obtained, Mr. Hargreaves would make

from one ton of salt '92 tons of ash at £2. 12s. per ton, and 1'67 tons of bleach at the same figure. If we compare this with the Castner estimate of '7 tons of 77% caustic at £4. 5s., and 1'67 tons of bleach at £3., it requires a good deal of faith in the future of the ash market to say that the former proposal is better than the latter, especially when we further take into consideration that the one continuous run, of which Mr. Hargreaves gives us a record, shows such a high percentage of salt in the finished alkali that the product would not for one moment compare with 58½% soda ash—in fact, taking the value of soda ash as indicated by its Na₂O percentage, it will be apparent that ammonia-soda ash has during the last twelve months actually been sold in large quantities at as low a figure as that at which Mr. Hargreaves sees his way to produce it. Mr. Hargreaves will probably say that he is not obliged to make soda ash, even though he may prefer to make the carbonate in solution. If he deducts the cost of evaporating this solution and finishing the ash, and substitutes for this the cost of causticising and finishing the caustic, he may, with great reason, claim to produce the high strength article at less than £4. 5s. per ton, especially if it be remembered that he claims an advantage of 8s. per ton over Mr. Castner on the bleach.

But reasoning of this kind would be very imperfect if we did not go a step further and examine the grounds upon which this claim to cheaper production is based. His electrolytic cell is so constructed as to eliminate the hurtful effects of Grahamic osmose and prevent the possibilities of the formation of secondary compounds, while the extra facilities for escape which are afforded to the hydrogen allow the electrolysis to be performed at a lower voltage. But when we look into the figures of the recorded run we fail to see how these advantages have manifested themselves. Mr. Castner uses four volts, it is true, against Mr. Hargreaves 3½; but, on the other hand, Mr. Castner obtains an electrical efficiency of 90%, against Mr. Hargreaves' efficiency of 80%, so that matters are fairly equalised. Where, then, does that advantage of Mr. Hargreaves' process come in which justifies his assumption that he can produce the finished article at a lower price than Castner? We are forced to the conclusion that the two parties have made very discordant estimates of common costs, or that Mr. Hargreaves has some unrevealed trump up his sleeve which will permit him to produce his electrical power very much more cheaply than his rival. Otherwise, how could it happen that, producing the same quantity of product with the same amount of electricity, the two costs can come out so widely different? We have great confidence in Mr. Hargreaves, and we have no doubt whatever that he will be able to solve what is to us as yet a riddle, and we shall await his further revelations on the subject with the greatest interest.

PHOTOGRAPHS OF 1895.—This excellent collection includes some splendid specimens of photographic work and half-tone printing. We have also received and perused the complete volume of the photogram for 1895. Besides photographic articles, there are many items on the recovery of precious residues and such like of interest to chemists. The supplements are of a highly artistic order, and, in many cases, most instructive in the modern methods of colour and tone printing.

MERSEY SALT SHIPMENTS.—The clearances of salt for Calcutta during the eleven months from January 1st to November 30th were: From Liverpool 166,169 tons, and from other ports 60,312 tons, a total of 226,481 tons. The Liverpool clearance for the same period of 1894 were 226,596 tons. The clearances for other ports in the East Indies during the same period this year were: From Liverpool 49,072 tons, and from other ports 16,740 tons; a total of 65,812 tons. The probable clearances for December for all East Indian ports is about 11,000 tons.

SOCIETY OF CHEMICAL INDUSTRY.

LONDON SECTION.

At the meeting of the London Section, held at Burlington House Monday night last, Mr. James Hargreaves, of Widnes, read a paper on "Alkali Manufacture by the Hargreaves-Bird System Electrolysis." In the course of a tribute to the memory of Mr. Bird, who is now dead, Mr. Hargreaves commented upon the objection to the use of mercury which had led him and his fellow worker to do this material from their minds. They came to the conclusion that the injurious effect upon the health of those who would come with influence of the diffused mercury would be so serious that they decided to be connected with any mercury process. After many trial failures, they have finally adopted a cathode of open texture, placed in contact with a diaphragm which, though porous as regards electrical requirements, is so far non-porous in the ordinary sense of the word that liquor cannot leak through it. The cell is filled with brine on the anode side, but on the cathode side no liquor is allowed to accumulate though the surface of the diaphragm is kept moist by the admission of steam, with which carbonic acid is mixed when it is desired to produce a carbonate. The advantages of this construction are that the back of grahamic osmose is entirely eliminated, and that practically grahamic osmose and the electric osmose are both allowed to be in the direction of bearing the cathion towards the cathode. Difficulty was experienced in finding a suitable diaphragm, but at last one was produced which, with a current density of yields only three molecules of undecomposed salt in ten the molecules of alkali. A large portion of the paper was devoted to strictures upon theoretical objections to the electrolytic production of bleach and soda which have been evolved by various investigators, the writer insisting that the discrepancy between these theories and the recorded facts demonstrates most clearly the fallacy of the reasoning. As an average record the result of 59 full days' working with 11 cells in series, was given. The average current per square foot was 1.5 amperes, with an electromotive force of 3.4 volts per cell. The current efficiency was 80.3%, and the liquor obtained from the cathode division contained 7.7 molecules of salt per hundred molecules of water obtained as carbonate. The chlorine tested on the average was 1.0 with very slight variations on either side. It is only fair to say that this record included results considerably below the average obtained both as regards the percentage of salt in the carbonate liquor and the current efficiency. Mr. Hargreaves dwelt at some length upon the power problem, and showed the worthlessness of many estimates in this direction that have been made by the so-called authorities. He himself saw no difficulty in producing electrical power at such a figure that the combined product (bleach and ash) could be turned out at £2. 12s. per ton.

SCOTTISH SECTION.

The second meeting of the new session was held in Edinburgh on the evening of Tuesday, December 3, in the usual meeting room of the Philosophical Institution, Queen-street. Dr. John Clark, chairman of the section, presided. Again the weather proved to be very pitiful, and the attendance was very small. The only item on the agenda paper was a short "note" by Mr. R. Tervet, F.C.I., on "Destructive Distillation." This, in the absence of Mr. Tervet, was read to the meeting by Mr. T. Stanley Muir, the honorary secretary. It appeared that the origin of the communication was a suggestion which had occurred to Mr. Tervet on the occasion of his presence at the reading of a recent paper by Dr. Mills before the Scottish section of the society. Following up the suggestion, he entered upon a series of experiments within a specified division of chemical research, and on results thus obtained he had found communication now presented. The experiments alluded to had been conducted on coal and shale mineral, the object aimed at being to ascertain whether the hydrocarbons existing in purified coal-gas under all circumstances possessed the same properties and composition, if possible, to give some qualitative and quantitative expression to their value, or to ascertain whether they varied with the varying quality of the coal or temperature employed. The main purpose had been to draw attention to what appeared to be the definite character of the products of destructive distillation so far as it related to the manufacture of coal gas. As a matter of result, Mr. Tervet felt that it was unnecessary for him to say, in reference to the work he himself had undertaken, anything further than that certain points had come under his observation which led him to the conclusion that the course of destructive distillation applied to coal and shale mineral, was definite and regular, as to the considerations which Dr. Mills had put forward in support of his theory. Mr. Tervet's "note," as read by the Secretary, proved to be a purely specialised and technical character. The brief communication was illustrated by a number of diagrams and figures, and a short discussion followed the reading.

LOW TEMPERATURE RESEARCHES.

By H. GRIME.

(Continued from page 338.)

ET and Cailletet will ever be remembered as the skilful and enterprising experimentalists who, independently, first liquefied

On the 24th December, 1877, it was announced to the French Academy that Cailletet, the ironmaster of Chatillon-sur-Seine, had succeeded in liquefying both oxygen and carbon monoxide. At the same time a communication from Pictet was read stating that he had liquefied oxygen. The methods and apparatus used by Cailletet and Pictet are too well-known to require detailed description here. Suffice it to say that by means of a powerful hydraulic press Cailletet subjected oxygen, contained in a thick walled capillary tube, to a pressure of several atmospheres. A freezing mixture surrounding the tube reduced the temperature to -29° . No liquefaction occurred. But by suddenly increasing the pressure Cailletet caused the gas to expand, and in the process so much heat was absorbed that the temperature fell below the boiling point of oxygen, and some of the gas became liquid. Pictet's apparatus also liquefied ethylene, acetylene, nitric oxide, marsh gas, nitrogen, and air.

Pictet's apparatus was perhaps more complicated than that of Cailletet, but it was better adapted for experiments having as their object the liquefaction of gases but also the collection of the liquid for subsequent examination of their physical properties. For this purpose other workers have designed their apparatus after the plan of Pictet, rather than after that used by Cailletet. In essence Pictet's apparatus was Faraday's U-tube: the generating limb of a glass U-tube developed under Pictet into a howitzer shaped iron retort, and the glass condensing limb became a thin tube about four metres long. The freezing mixture used to cool the condensing limb was liquid carbon dioxide boiling under reduced pressure at -140° . The pressure produced by the generation of the gas in the closed space rose to 475 atmospheres. The carbon dioxide used had been liquefied by a pressure of five atmospheres at a temperature of -65° , attained by the evaporation in a partial vacuum of sulphur dioxide, which itself had been liquefied in another portion of the apparatus under a pressure of 23½ atmospheres at the temperature of -10° . By the use of a double series of pumps the process of liquefaction and liquefaction of the sulphur dioxide and the carbon dioxide was made continuous. This, of course, tended greatly to save time, trouble, and expense. In this way, then, Pictet succeeded in liquefying liquid water to liquid oxygen by the aid of liquid sulphur dioxide and liquid carbon dioxide. There are few more fascinating chapters in the history of science than this masterly attack on gaseous elements. Points of vantage successively gained were skilfully utilised for the purpose of fresh operations resulting in still further conquests over

oxygen, though closely invested, still held out. But the news of the capture of the last stronghold in this domain of Nature was not delayed. Less than a month after the famous 24th of December, Pictet wrote to Dumas, stating that he had liquefied and even solidified nitrogen. The gas was prepared by heating together pure potash and potassium formate. At a temperature of -140° , the pressure in the condensation tube became constant at 650 atmospheres, and he concluded that the hydrogen was liquefied. "When I opened the cock," he wrote (see C.R. 1878, vol. 86, p. 106), "liquid nitrogen issued with vehemence from the orifice, producing a sharp sound. The jet had a steel-blue colour, and was perfectly spherical for a length of about 12 centimetres. At the same time a hissing was heard on the floor like the noise made by hail falling on a hard surface, and the hissing changed into a whistling which resembled the sound when a piece of sodium is thrown upon water. Almost immediately the jets became intermittent, and shocks were felt in the condensation tube." "Evidently," he concludes, "some of the gas had solidified within the tube." After this announcement the liquefaction of hydrogen was regarded as an accomplished fact, until, in 1894, Wroblewski, assisted by Olszewski, showed that the critical temperature of hydrogen is below -220° (it is now generally supposed to be about -250°). Dr. Krzyzanowski, in a research conducted in 1894, suggested that Olszewski, proved that when potassium and potassium formate are heated together, even with excess, the hydrogen evolved contains water vapour and two oxides of carbon. The liquefaction and solidification of hydrogen would account for most of the phenomena described by Pictet. It is not to be understood, in the absence of air or oxygen, the reason for the steel-blue colour of the issuing jet, but the attainment of a constant temperature within the condensation tube may possibly be explained by the supposition that the position of chemical equilibrium was reached; the decrease of volume due to decomposition would then be just equal to the decrease of volume due to recombination, and the pressure would therefore remain constant. News of the work of Wroblewski and Olszewski penetrated this country very slowly, but gradually, and students came to understand that the statement, "hydrogen

has not been liquefied," carefully scored through in their text-books, still held good.

Dewar has attempted to obtain liquid hydrogen by submitting a mixture of hydrogen and a small percentage of nitrogen to great pressure at the lowest obtainable temperature. This was with confidence expected to effect the desired result, for mixtures sometimes liquefy as a whole at a temperature between the boiling points of their constituents, and so, by employing as freezing mixtures liquids containing smaller and smaller proportions of nitrogen with the hydrogen, Dewar hoped to obtain a temperature below the critical temperature of hydrogen. But hitherto no success has attended his efforts in this direction. It seems, however, that at last even hydrogen has succumbed. Olszewski has stated that on submitting a mixture of two volumes of hydrogen and one volume of oxygen under pressure to great cold he obtained a liquid which was, in thin layers, colourless and transparent. He does not appear to have investigated the nature of the liquid, but it seems fair to assume that it was liquid hydrogen and liquid oxygen in intimate physical connection. This is not all. He has more recently announced that he has succeeded in liquefying pure hydrogen. I have seen nothing beyond the bare announcement, but I imagine that the liquefaction has been effected in the apparatus soon to be described, figured in the *Philosophical Magazine* for February. In the account which accompanied the sketch in the *Philosophical Magazine* Olszewski stated that, though he had obtained a transient appearance as of ebullition in the experimental tube, he had up to the time of writing been unable to detect the formation of a distinct meniscus. As regards helium—the other gas as to the liquefaction of which we have no certain information—it was announced in the paper by Ramsay, Collie and Travers, recently read before the Chemical Society, that a sample of helium had been forwarded to Olszewski for examination at low temperatures. Its small co-efficient of solubility in water is thought to indicate a low boiling point, and it is possible that liquid helium may prove the long sought missing link in the chain between liquid sulphur dioxide and liquid hydrogen. Nay more, it is just possible that its boiling-point is lower than that of hydrogen. When helium has been liquefied, and when the liquefaction of hydrogen has been confirmed, we shall be in a position to state with certainty that no gas known to chemists is permanent, and by the evaporation under reduced pressure of liquid hydrogen, or liquid helium, a very close approach will be possible to what seems the *ultima thule* of the chemist—the absolute zero of temperature.

(To be continued.)

EXPORTS OF PETROLEUM FROM U.S.A.

THE Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for October. The total shipments were 83,843,613 gallons, compared with 83,875,023 gallons in October, 1894. The total for the ten months ending October 31st, 1895, was 697,390,397 gallons, against 734,846,623 gallons during the same period in 1894. The details of the shipments are as follow:—

CRUDE PETROLEUM.		Gallons.
Total, October, 1895.....	1894.....	10,521,165
" " 1895.....	1894.....	11,224,987
NAPHTHAS.		
Total, October, 1895.....	1894.....	569,718
" " 1895.....	1894.....	2,400,527
ILLUMINATING.		
Total, October, 1895.....	1894.....	67,291,464
" " 1895.....	1894.....	66,790,364
LUBRICATING AND PARAFFIN.		
Total, October, 1895.....	1894.....	5,447,196
" " 1895.....	1894.....	3,434,995
RESIDUUM.		
Total, October, 1895.....	1894.....	14,070
" " 1895.....	1894.....	24,150

MECHANICAL CARRIAGES.—At the Camera Club, St. Martin's-lane, last week, under the presidency of Sir David Salomons, Mr. J. H. Knight delivered a lecture on this subject, which is expected to come into special prominence next year in commercial and engineering circles. Mr. Knight, after showing all that had been done up to the present in this way, said that he had invented one of the lightest machines for carrying two persons by the agency of an oil engine at a cost of about 6d. for every 32 miles. The chairman, Mr. Cunningham (Home Office), Mr. Bateman, and Colonel Mellor, M.P., took part in the discussion that followed the reading of the paper.

MERSEY AND IRWELL JOINT COMMITTEE.

THE usual monthly meeting of this committee was held on Monday, at the offices, Mosley-street, Manchester, under the presidency of Sir J. T. Hibbert.

Mr. T. W. Killick presented the report of the Consulting Sub-committee. It was decided, in accordance with their recommendation, that the clerk should write to the Royton Urban Council informing them that the Joint Committee were not satisfied with the progress they had made in regard to their sewerage arrangements, and that unless the plans were submitted to the Local Government Board before the next meeting proceedings would be taken against the Council.

It was reported that one of the tanks at the sewage works of the Gorton Urban Council had given way.

Mr. Alderman Walton Smith said he had been informed that the works were not of a substantial character. The engineer was instructed to report upon the matter, and the clerk was instructed to take proceedings against the Sale Urban Council.

As to Ashton-under-Lyne, the Sub-committee considered that the position of this Corporation was most unsatisfactory, for they had not only not yet commenced to construct the outfall works, but had not even settled upon the site or the mode of construction.

The Clerk advised that a letter should be sent to the Corporation of Ashton-under-Lyne urging them to take immediate steps for the construction of outfall works.

Mr. Killick, in moving that such a letter be sent, said that the Corporation might be informed that their neighbours were either in advance of them or proceeding more quickly with their works, and that in common fairness to the other authorities in the watershed the Corporation of Ashton-under-Lyne ought to do what they could to get their scheme in working order.

The Chairman said that although the Corporation had a considerable time in which to complete their works, the Joint Committee might fairly appeal to them to do their best to carry out the outfall works, so as to have them ready when the other works were completed. He would rather make a friendly appeal than threaten legal proceedings.

The resolution was accepted.

The Sub-committee reported with regard to Macclesfield Corporation that a letter had been received from the Town Clerk stating that the contracts for works of sewerage and sewage disposal had been let and signed, that the works had been commenced at both Butley and within the borough, and asking the Committee to consent to a further period of twelve months being granted the Corporation from the 1st December next in which to complete the works. The Sub-committee thought that this request was unreasonable, and they recommended that the clerk be instructed to write and in form the Corporation that if they would apply to the court for a further extension of time for six months this would not be opposed by the Joint Committee.—This recommendation was accepted.

A letter had been received from the Town Clerk of Bolton stating that in pursuance of the order of court his Corporation had provisionally agreed to the purchase of land for the erection of works, and that the requisite notices had been given. Owing to the fact, however, that the Local Government Board inquiry had only recently been held, the Corporation had as yet been unable to commence the construction of the necessary works. Under the circumstances, and owing to the opposition the Corporation had had to encounter in the matter, the Sub-committee recommended that the Corporation of Bolton be informed that if they would apply to the court for a reasonable extension of time being granted them the same would not be opposed by the Joint Committee.—The recommendation was agreed to.

Mr. Killick said an order had been received from the Local Government Board consenting to proceedings being taken against Messrs. Sykes and Co., Edgeley, for the pollution of a watercourse which they claim is a sewer. The Sub-committee recommended that the Corporation of Stockport and the Cheshire and Gt. Mersey Urban Council should be joined in the proceedings to be taken against Messrs. Sykes. This was agreed to.

The Clerk reported the result of certain proceedings taken against Messrs. Clegg, Milnrow. An objection had been made by the defendants on a technical grounds, and as it had been upheld it would be necessary to begin the proceedings all over again. The Committee, Mr. Hulton proceeded to say, had never pressed hardly on manufacturers, after a Local Government inquiry had been held, when they had shown a genuine desire to carry out the necessary works. In two-thirds of the cases in which an inquiry had been held and the consent of the Local Government Board given to a prosecution, the manufacturers had taken steps to comply with the demands of the Committee without any further process. But, in view of the result in Messrs. Clegg's case he feared it would be his duty to advise the committee to take proceedings immediately upon the consent of the Local Government Board being obtained. This was a very unpleasant position to be in. The Committee would agree with him

that they had done a great deal more by suasion than by force. Messrs. Clegg, he had to recommend that the proceedings should commence *de novo*, and that they should be summoned to the meeting to show cause why proceedings should not be taken against them.

The Chairman said he very much regretted what had taken place because it would operate against the interests of manufacturers. The Committee would now be forced to take proceedings as soon as an inquiry had taken place, whereas in the past this course had rendered unnecessary in many cases by a voluntary agreement part of manufacturers to carry out the works.

The course suggested by the Clerk was agreed to.

A report was submitted by Sir Henry Roscoe on the effluent fellingmongs' works. He said that all the works of this kind under jurisdiction of the Joint Committee had now been provided with and cinder filters, and precipitation with chemicals had been adopted. Yet the effluents passing away after such treatment were still unsatisfactory character, inasmuch as they were found to contain much soluble organic matter of a putrescent character. His analysis, Mr. Scudder, had examined a large number of treated effluents had also, from time to time, visited the purification plants in operation and as the results of his analyses and inspection, he (Sir Henry Roscoe) came to the conclusion that the filtering area in use in the several cases under consideration was inadequate to effect a satisfactory result. That a considerable extension of filtering area was necessary. He had made some experiments on the treatment of the refuse, and that the chemical treatment with alum cake, which all these works had adopted, could be more satisfactorily and economically replaced by use of a mixture of lime and sulphate of iron. At the same time work which the filters were called upon to do would be relieved, and a more satisfactory result would be attained. Of course the filter whether it be by land or by porous material, must be intermittent, the rate of flow so regulated that the filtering medium might be active and capable of oxidising the organic matter in the water passing through the filters. Land treatment, where it could be applied, was the best, but where the difficulty of obtaining sufficient land arose it must be had to artificial filtration through porous material.

It was decided that a copy of the report should be sent to each fellingmonger in the watershed.

THE NEW CARBORUNDUM WORKS AT NIAGARA FALLS.

AMONG the new products resulting from the economical production of the electrical current is carborundum, used in the art as an abrasive, and ranking next to the diamond in hardness.

The formal opening of the new works of the Carborundum Company at Niagara Falls took place a few weeks since in the presence of a number of invited guests, and thus was inaugurated a plant which unquestionably ranks among the most important that have thus far been attracted to the Falls.

Before entering upon a description of the work accomplished by the new equipment, it may be of interest to relate the events which have led to the creation of the new carborundum works. It is recalled that, prior to the starting of its Niagara Falls plant, the Carborundum Company manufactured carborundum at Monongahela, using steam power to produce the current, the daily output amounting to about three hundred pounds. Although the making of carborundum is now carried on only at Niagara Falls, the old plant is still making finished goods from the grain and powder carborundum from the new plant. (Vide C.T.J., 330 p. 181, and 338 p. 308.)

Owing to the limited facilities heretofore existing, the production of carborundum had been so small as to practically restrict its use to the finer trades, such as the dental and manufacturing jewellers', fine grinding, pearl grinding, and kindred industries. The development of the dental trade especially has been remarkable, and, in the United States, lathe and engine wheels, and cloth finishing, carborundum rapidly displacing all other abrasives in this important trade, not only in the United States but throughout Europe.

This development is also noticeable in the jewellery trades, where the form of wheels and powders, it is used in polishing and grinding the delicate wheels, springs, &c., in the manufacture of watches. The value is materially enhanced because of the fact that owing to its exceeding hardness, the finest impalpable powders have been introduced into the glass grinding and finishing industries, its use as a superior abrasive for these purposes is recognised.

Its utility has been demonstrated in the more important grinding trades, such as car wheel grinding, machine shop finishing, and other industries using large wheels; its rapid cutting qualities result in a saving of labour and time, a valuable consideration in any manufacturing interest. This large field has remained practically untapped owing to the inability of the Carborundum Company to produce a sufficient quantity of the material to manufacture wheels large

inches in diameter for the general trade, large orders being converted away.

roduce carborundum at the lowest possible cost, and thereby of its general adoption as an abrasive for all classes of work, course been a subject of vast importance to the Carborundum ay, and after having investigated the possibilities of Niagara a manufacturing point, they determined to locate a plant hat they might have the benefits of cheap power from the Company and have also the advantage of railway facilities there

A contract was made with the Niagara Falls Power Company 00 horse power to be delivered as required for the purposes of manufacture, and it is thought that the initial 1,000 horse power ing used will be added to at an early day, and with that in view it is constructed to accommodate 3,000 to 4,000 horse power. Various buildings and apartments of this superb plant are ly arranged for the economical handling and manipulation of erials. The stock building, into which is received the crude is, is provided with a railway track connecting with the Junction Railroad, on which the loaded cars are conveyed to ious bins or compartments provided for the reception of the materials, which consist of coke from the Pennsylvania bitumin-fields, white sand from Ohio, salt from the saltworks of New ate, and sawdust from the mills of Tonawanda. Conveniently d, in relation to the storage bins for crude materials, is a most e grinding, grading, and mixing plant, into which the coke as from the cars is introduced and ground and sifted into assorted uns, and conveyed into bins, from which it is drawn and mixed r proportion with measured quantities of sand, salt, and sawd these measured quantities thoroughly mixed and delivered in provided for the finished mixture. This work is done by ic machinery at the least expenditure of manual labour.

four crude materials having been wrought into what is called ure, they are conveyed to the electrical furnaces in an adjoining . It would, perhaps, be difficult for one unskilled in the arts electro-metallurgist and unfamiliar with the apparatus he em- producing his transformations, to recognise the rough and tly crude oblong brick boxes, made without cement, mortar, or inding materials, as furnaces. Provision is made for five of naces, extending down one side of the large spacious building, them measuring about fifteen feet in length by seven feet in nd the same in height. In the centre of each end is placed a onze plate, and these are connected by means of four large cables to massive copper bars extending under the floor at nd of the furnaces. Connecting with the inner surfaces of the plates are one hundred and twenty carbon rods, sixty to each These carbon rods are three inches in diameter and a little o feet in length, and they are so placed as to pass through the ls of the brick furnace, projecting into the interior and toward er, thus constituting the terminals. Into this furnace the mix- it has been prepared in the stock rooms is introduced, about constituting a charge; and through the centre of the mass of materials is placed a core or cylinder of granules of crushed coke g from the carbon rods at one end of the furnace to those at r end, and making a perfect electrical connection through the y means of the bronze plates, carbon rods, and the core. urnace, as above described, is prepared for the turning on of ent, and this is provided for and controlled in the adjoining , which was specially constructed for the transforming as used in reducing the high pressure current as received from amos of the Niagara Falls Power Company to the low pressure used in the electric furnaces. Located in the same building is ating apparatus used in controlling the current as it passes to aces.

everything has been properly prepared, the connections to ace are completed, and 1,000 horse power of electric current l into the granular core, above referred to, and kept on for four consecutive hours, making a total expenditure of energy of orse power hours. All of this vast amount of energy is trans- o the core—twenty-one inches in diameter and about nine feet

t two hours after the turning on of the current gases begin to hrough the crevices of the brick walls of the furnace, and being they burn with a lambent blue flame. As the process continues, r walls and top of the mass in the furnace show a slow rise in ture, the effect of the transmission of the intense heat from the e entire top of the mass becoming redhot in about twelve hours. e current has remained on for the period of twenty-four hours, uch time as the workman in charge recognises that the process lete, the current is stopped in the transformer building, the cables are disconnected from the bronze plates and others are ed with the plates of the next furnace in the series of five, and n is carried through the same operation. sting as the work may have been up to the point of stopping ent, it cannot compare with that at the moment of opening a

furnace. One end of the furnace is removed and a cross section through its centre exposed, thus permitting of a ready inspection of the result of the operation. In the centre is the granular core, in the same position in which it was originally placed, but it is now purified of all foreign substances. It is now pure carbon and has lost about one-fourth of its weight, this loss representing the volatized impurities. The presence of grains of graphite disseminated throughout its mass indicates that its temperature must have been near 7,000°, which is the point of graphite formation. Surrounding the core, in the form of a cylinder, is a beautiful crystalline formation, the crystals being constructed on lines radiating from the centre. Those crystals in immediate contact with the core are looped or built together into one concrete mass, this solid formation giving way to a loose structure as the distance from the core is increased; the size of the crystals, at the same time, diminishes rapidly, until at about fifteen inches all crystallisation ceases and is followed by an amorphous material, of a whitish gray colour for a distance of about two inches, when a sudden change occurs to a black mass composed of the original mixture, now held together in a cemented state by the fusion of the salt.

The crystalline and amorphous material lying between the core and the outer black mass is carbide of silicon, being composed of carbon and silicon, atom for atom. It is this material that was discovered by Mr. Acheson and by him called carborundum. About two tons of carborundum is produced in one furnace run, and to prepare it for the market it is first passed under heavy iron rolls, for the purpose of crushing apart and separating the individual crystals, after which it is treated with an acid and water bath to remove all solubles. It is then dried and sifted, to separate the various sized grains, and placed in bins ready for packing for shipment, or to be worked up into wheels, hones, or other forms in which abrasives are used.

At the opening the guests were welcomed by Mr. E. G. Acheson, the president of the Carborundum Company and inventor of its process of manufacture; and to whose energy and ability the present excellent position of the company is principally due.

THE GERMAN PATENT FUEL TRADE.—The demand for patent fuel in Germany is now so brisk that the syndicate has entirely withdrawn the 10 per cent. restriction in production which has been in vogue for a considerable time.

HARDENING STEEL WITH POTASSIUM CYANIDE.—In discussing the use of cyanide of potassium for steel-hardening purposes, Mr. T. R. Almond, Brooklyn, New York, suggests this salt assists the hardening process because of its powerful deoxidising properties, and also because it forms a liquid film on the surface of the steel, which causes a more perfect contact between the steel and the water, thereby permitting a more rapid abstraction of heat. The inevitable formation of a thin coat of oxide is unfavourable to the process of rapid cooling, and as rapid cooling seems to be the one thing necessary for success as to hardness, any means used for the removal of a bad conductor of heat, like the black oxide, will be of advantage, and more especially if this means also results in the formation of a liquid film on the steel surface having the affinity for water which, it is well known, is peculiar to potassium cyanide. Mr. Almond recommends the removal of all scale or oxide from the surfaces of steel to be hardened, either by pickling or by the cyanide. Steel covered with a very thin film of oxide will take the heat less quickly when immersed in hot lead than if the steel be bright before being immersed. This being the case, it would seem to follow that, because of a film of oxide, heat will leave steel more slowly when cooled by water.

RIVER POLLUTION PROSECUTION.—Last week at the Bury Police Court, Mr. James Kenyon, M.P. trading as James Kenyon and Son, and Richard Bentley were charged with causing sludge to flow into the Brightley Brook, a tributary of the Irwell. Mr. Wilson prosecuted on behalf of the Irwell and Mersey Joint Committee. The case had been adjourned from the 21st. ult. It was contended by the prosecution that on the 4th October Mr. Johnson, an inspector of the Joint Committee, discovered that a quantity of sludge was being turned down the brook from the defendant's works at Pilsworth. Johnson visited the works, and found a man named Hackney pumping the sludge from settling tanks down a trough about three-quarters of a mile long. There were a number of settling tanks at the works, but by opening a sluice the sludge could be permitted to pass into the trough. Johnson stated that he saw the effluent from the works pass in an unfiltered condition into the brook on the night in question.—Mr. Tatton, engineer to the Joint Committee, said the pollution could be prevented by closing the lide which led to the trough.—Mr. Scudder, assistant to Sir H. Roscoe, said there was $\frac{3}{4}$ per cent of solid matter in the sample of effluent submitted to him. It was highly decomposed, and was sludge.—Mr. Watson, for the defence, said it would be idle to deny that an offence had been committed, but Mr. Kenyon had spent nearly £2,000. on tanks, &c., and £200. a year on their working to avoid an offence, which had been occasioned in this case by a condition of emergency.—A fine of £5. and costs was imposed, Mr. Kenyon being held to be personally blameless.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

- Making Hydrated Oxide of Lead. J. Plummer. 21,863. November 18.
 Improved Production of Ozon. E. Andreoli. 21,883. November 18.
 Artificial Fuel. C. Weygang. 21,890. November 18.
 Improvements in Nitro-compounds. W. F. Reid and E. J. V. Earle. 21,995. November 19.
 Producing Metallic Cyanides and other Nitrogen Compounds. T. L. Willson. 21,997. November 19.
 Producing Alkaline Silicates, or Silicates of the Alkaline Earths, and of Chlorine or Hydrochloric Acid. D. A. Péniaff. 22,037. Nov. 19.
 Production of Alkaline Aluminates, or Aluminates of the Alkaline Earths, and of Sulphurous Acid. D. A. Péniaff. 22,038. Nov. 19.
 Production of Aluminates, and of Sulphurous Acid, and Chlorine or Hydrochloric Acid as By-products. D. A. Péniaff. 22,039. Nov. 19.
 Extracting Gold from Antimony Ores, etc. G. T. Holloway and C. C. Longridge. 22,115. November 20.
 Preparation of Blood and Slag Manure. W. Barclay. 22,160. Nov. 21.
 Recovering Grease and Oil from Cotton, etc. G. E. Wright and W. Monk. 22,183. November 21.
 Method and Apparatus for Degraining, Scouring, and Dyeing Wool, etc. G. E. Wright and W. Monk. 22,184. November 21.
 Improvements in Electrodes. C. Kellner. 22,207. November 21.
 Refining Bismuth. B. Zahorasky, F. Hurter, and J. Brock. 22,251. Nov. 21.
 Process and Apparatus for Estimating CO₂ in Combustion Gases. G. Craig. 22,303. November 22.
 Improvements in Manufacture of Aluminium. A. Julien. 22,354. Nov. 22.
 Manufacture of Disinfectants, etc. C. C. Whitaker. 22,364. Nov. 22.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS OF PUBLICATION ARE RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

Improvements in or Connected with Destructor Furnaces. J. Craven, Westgate Common Foundry, Wakefield. Eng. Pat. 24,634. December 18, 1894.

The object is to obtain complete combustion of the gases from the destructor furnace, which is accomplished by means of an additional fireplace or combustion chamber.

The refuse is fed into a furnace with an endless travelling grate through a hopper provided with toothed or crushing rollers. Above this furnace a multitubular boiler is supported in a horizontal position on two fire-brick walls. The one farthest from the grate is perforated and admits the products of partial combustion into a combustion chamber. Through the top of this chamber, with which the boiler tubes communicate, small coal is fed on to a stepped grate. The combustion of the fuel takes place as it falls from step to step, and the heated products from the joint combustion of the coal and refuse gases pass through the boiler tubes, escaping at the other end by flues to the uptake. The dust from the stepped furnace is removed by a door at the bottom of the combustion chamber, and is prevented from passing into the tubes and flues by a baffling wall, dividing the upper portion of the chamber and protecting the face of the tubes. The burnt refuse from the endless grate is delivered by a shoot to trucks placed for its reception. Four figures show the general arrangement, and details of the stepped grate.

Improved Means of Utilising Waste Heat from Steam Boilers and other Furnaces. J. Horrocks, Ainsworth House, Ainsworth, near Bolton. Eng. Pat. 24,843. December 21, 1894.

In addition to using the waste gases in the usual water heater, it is proposed to further utilise them for heating the air supplied to the furnace. This is done by passing the waste gases, as they leave the feed-water heater, into a chamber filled with tubes, around which the hot gases play before passing to the chimney. The lower ends of these tubes are secured air-tight in a cross pipe connected to the open air, or a chamber into which air is forced by a fan. The upper ends of the tubes pass through the top wall of the heating space in which they are exposed to the flue gases, and so deliver the heated air into another chamber connected by pipes or small flues to the mouth of the furnace. The whole of the air supply is heated, and, if desirable, a portion may be allowed to pass into the furnace above the fire-bars by means of holes on either side of the dead plate. Special arrangements are described for keeping the bars cool and emptying the ashpit both in the case of external and internal furnace boilers. There are three drawings.

Process for the Separation of Oils and Fats from Water. A. L. G. Delme, Halle i/Saale, Germany. Eng. Pat. 21,131. November 3, 1894.

Advantage is taken of the fact that insoluble hydrate of alumina, suspended in water, combines mechanically with, and absorbs oils and fats. The hydrate need not be chemically pure, but should contain no soluble matters. The treatment is specially applicable to condensed water from engines, etc. The apparatus consists of three tanks situated over a filter-press. The condensed and greasy water is delivered into the right-hand tank. Into the left-hand one (which, like the centre one, is fitted with an agitator) enough of the condensed water is drawn through a cock on the delivery pipe to form a thin milk with the hydrate of alumina. The contents of the two exterior tanks flow into the middle one, wherein they are thoroughly mixed. A small amount of the oil, etc., separates in the right-hand tank, where the water is more or less quiescent, and is removed as soon as an appreciable layer collects, the cleared water passing by a syphon pipe into the central tank. The contents of the latter tank are separated into flocculent particles by the aluminium hydrate, which sucks up the oil. The whole then passes to the filter-press, where the particles collect as a deposit on the filtering surfaces, thus affording a filter-bed for the succeeding water, which passes away quite clear. For a hundred horse-power engine, delivering about 220 gallons of condensed water per hour, about 20 lbs. of hydrate alumina are added to the left-hand tank every three hours, the hydrate containing some 70 per cent. of moisture.

Improvements in and Relating to a Composition for the Destruction of Philloxera and for Developing the Stocks of the Vine. J. V. Johnson, 47, Lincoln's-inn Fields, London (communicated by F. Genadim J. Aghion, and E. Naffal, all of 21, Boulevard Poissonniere, Paris). Eng. Pat. 25,295. December 29, 1894.

The composition, which is mainly composed of olive oil, mineral pitch, and chalk, is intended to act as a combined insecticide and manure. The preparation is as follows:—190 parts of pitch are powdered, and 18 of calcium carbonate, 1.5 of silex, and 0.75 of oxide of iron are impalpably ground. 800 parts of olive oil are then heated to 100°C., and the pitch added. Solution is completed about 150°C. When the temperature of 300°C. is reached, the other materials are added, and the whole well stirred. The temperature of 300°C. is necessary to prevent the calcium soaps from separating on cooling. When the mass has cooled to 80°C., about 0.5 parts of asafetida are added, and stirring continued for a while. When cold, the mixture is ready for application, which is best accomplished by removing the earth from the roots to be treated, washing with aloes, and then applying the composition with a brush. The earth can then be put back, and lightly beaten down. The novelty consists in the solution of the pitch in the vegetable oil, and the retention of the other ingredients in a state of suspension in this fatty solution.

Improvements in the Manufacture of Soap. J. McLaren, 156, Bedford-street, Boole, near Liverpool, Lancashire. Eng. Pat. 24,669. December 18, 1894.

To produce a household or scouring soap powdered bath-brick is crutched into melted soap in the proportion of one-fifth of bath-brick to four-fifths of soap by weight. The proportions, however, may vary according to the use for which the soap is ultimately destined. The powdered bath-brick may also be incorporated with the ingredients of soap powder and of soft soaps.

NITRATE STATISTICS.—The Permanent Nitrate Committee's public statistical circular for December states:—"Nitrate of soda.—Total exports to Europe, November, 2,800,000 quintals; loading for Europe, December 1st, 1,265,000 quintals; imports, Europe, November, 89,000 tons; deliveries in Europe, November, 48,870 tons; visible supply, Europe, December 1st—stocks and afloat, 605,370 tons."

THE GERMAN IRON TRADE.—According to the monthly returns published by the Association of German Iron and Steelmakers, the output of pig iron in the German Empire, including Luxembourg, during the month of October has amounted to 511,264 tons, against 490,934 in October, 1894. The output is made up of 113,967 tons puddling pigs and Spiegeleisen, 38,494 tons Bessemer pigs, 267,247 tons of Thomas pigs, and 91,556 tons of foundry pig. The total production during the ten months from beginning of January to end of October amounts to 4,788,571 tons, against 4,579,180 tons during the same period of last year, an increase of 209,391 tons. The latest reports from Westphalia state that in the Sieg Valley business in iron ore has again become very active, especially for delivery during the second quarter of 1896; the new orders for that quarter are computed at about 265,000 tons, or, roughly, 80 per cent. of the total output. During October the quantity of pig iron forwarded was very large, and stocks were drawn upon to the extent of 6,000 tons. It is stated that on the 1st inst. 760,000 tons puddling pigs were booked. Rolling mills cannot accept any orders with less than six to eight weeks' time for delivery, and most works have orders sufficient for the whole winter.

Our Book Shelf.

HANDLING OF DANGEROUS GOODS. By H. J. Phillips. 362 pp., index. London: Crosby Lockwood, and Son. 1895.

One of this book speaks for itself, and we think there should be no need for any doubts as to its filling a want. It is well arranged, and the whole fulfils the author's object of being intelligible to those with little or no knowledge of chemistry. The first of the three parts, in which the work is divided, deals with dangerous acids, alkalies, inflammable liquids and solids, bodies liable to spontaneous combustion, and explosives. There is no need for special comment on the former sections, save mentioning that bromine and hydrogen peroxide are not included under any of the headings, but separately, and also commending the section on gases. The latter section is very good, being sufficiently exhaustive, yet plain and straightforward. The classification of the different explosives will be helpful to officials, and insurance companies, as will also the lists of fancy names by which the various gunpowders, nitro, and fulminating compounds are known.

The second part is most instructive, as it comprises a great number of typical accidents with some 46 different substances, some of which are dangerous in surprising ways. In the matter of lamp accidents the author adopts the middle course of 85° F. as a standard. The record of his own experiences, and other testimony given, all point to 73° F. being too high. The third part deals with the railway regulations and classifications of dangerous goods, and with the transit of explosive or dangerous goods. To the insurer and user this part will be most useful for reference. It will be seen that the book appeals to an extensive and varied class, and is well-nigh indispensable to shippers and carriers, and all who have dangerous goods transported.

PRactical PROOFS OF CHEMICAL LAWS. By V. Cornish. London: Longmans Green and Co. 1885. 2s.

This little work provides a most instructive series of practical verifications of the quantitative laws of chemistry. The experiments deal exclusively with the combining proportions of the elements, being described, and within the scope of any school laboratory. For the instruction of higher classes at schools and institutions, and for the educating of students who have mastered their chemical course provided will be found excellent. In short, to the student it is a boon, and to the genuine student as interesting as helpful.

WEAVING. By R. Marsden. 533 pp.; 213 illustrations. London: George Bell and Son. 1895. 10s. 6d.

This will be found a most useful and comprehensive work, dealing with the history of early weaving and development of the modern loom. An excellent chapter on the power loom leads up to improvements in the loom itself, the shedding and picking, the winding, warping, bleaching, dyeing of yarn and development of the art of dressing. Other chapters deal with the questions of spinning processes, manufacture and use of sizings, management of the mill. Well got up and well illustrated, the book should find a warm welcome amongst all interested in cotton.

Reports of Companies.

THE LONDON NITRATE COMPANY.

At the eighth annual general meeting of the shareholders in the Nitrate Company, held in the Common Hall, Hackin's-hey, on the 10th inst., Mr. Frank Tobin, the chairman of the company, presided. Chairman, at the outset, alluded to the death of their late member, Mr. Newall Watson, by whose removal the directors had lost a very valuable colleague. Mr. Watson had a wide experience in the matters of the company, and it was to his knowledge and judgment that a large part of the success that had attended the company since its formation was due. Those who had been removed from London to Liverpool were due. The result of the past year's working had been a great satisfaction to the shareholders, and he was sure they must also have been satisfactory to the directors. The profit made was the largest earned by the company for many years; in fact, he thought it had only been exceeded in the first two years of the company's existence, when the prices of nitrate were considerably higher than they now were. During the part of the year fair prices were ruling, and they had a very nice profit on their business, but coincident with that there was a considerable rise in exchange on the coast, and the directors had been unable to take advantage of that, and had realised from it a profit of only £1,100. Of that sum only £1,100. had been brought into profit and loss

account, because in the previous year there was a debit balance of £3,500. on the exchange suspense account. The sinking fund, which in the last accounts stood at the maximum of £20,000., had been depleted by £18,700., the amount paid for new grounds. The directors had therefore appropriated £5,000. from the profit and loss account, and placed it to the credit of the sinking fund, which now stood at £6,295. A year ago the reserve fund stood at £3,500., and they had been able to make a very handsome addition to it, and raise it to £12,500. The gross profits on trade amounted to £23,000., and there were sundry items which brought the total amount at their disposal to £25,000. The dividend of 8 per cent. to the preference shareholders absorbed £8,800., and after appropriating £5,000. to the sinking fund, £9,000. to the reserve fund, and £500. to the fire insurance fund, there was a balance to carry forward of about £1,500. With reference to the amount placed to the reserve fund, some of them might think it somewhat large, but the directors had to keep in view their obligations in connection with the new grounds which two years ago they found it necessary to purchase. They were fortunate in obtaining two pieces of ground, the Abre de Ugarte for £12,000., and the Germania for £28,000., which left £40,000. to be provided for new grounds. Of that they had already paid about one-half, so that £20,000. remained to be paid on the 30th June next. Then they had spent about £10,000. in providing new and improved machinery, but this would enable them to produce their nitrate at about 4d. per quintal less than formerly, so that on an average output of 300,000 quintals they would effect a saving of about £5,000. a year. Therefore this £10,000. spent in machinery would be recouped by economy in working in two years. He had been told that some disappointment had been felt because the directors had not seen their way to pay any dividend on the ordinary shares. He might say that the ordinary shareholders were exceedingly well represented on the board, indeed the directors held about half of the ordinary shares. Therefore it was not likely they would prejudice the ordinary shareholders if they could see their way to avoid it, but they did not think it right to pay away any more money in dividends when they had such heavy obligations hanging over their heads. When these obligations were met they would have as good a little nitrate property as existed. The one element wanting for success was a profitable price for nitrate. As to the proposed combination they would welcome any equitable combination that would be in the interests of the shareholders, and would be ready to join it. In conclusion the chairman moved the adoption of the report and statement of accounts.

Mr. Eshelby congratulated the directors on the improved position of the Company, and suggested that the balance carried forward of £1,556. 16s. 2d. be also added to the reserve fund.

The report, which recommended a dividend of 8 per cent. on the preference capital, was adopted, as was also the suggestion of Mr. Eshelby.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols continue strong, full prices being obtained. The value of 90's is about 1s. 9d. and 50/90's 1s. 7d. Carbolic acids keep steady at 1s. 7½d. for 60% crude, and crystals (40%) 6d. Crude naphtha is a fraction lower at 5½d., but solvent is firm still at 1s. 4d. Creosote 1½d., and filtered for lighting 2d. Anthracene dearer, with 30% A at 11d. to 11½d. and B 9½d. to 10d. Pitch rather easier, value f.o.b., East Coast, being now 37s. 6d.

Sulphate of ammonia continues very quiet. The chief buyers are speculators, consumers holding off in the hopes of lower values. In consequence, prices generally are weak, though some makers are disposed to hold rather than sell at the prices offered. Beckton still stands at £9., London outside makes £8. 15s., Liverpool £8. 16s. 3d., Hull £8. 13s. 9d., and Leith £8. 12s. 6d., all prompt. Nitrate dull and easy.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The question of general interest, which is the cause also of a good deal of bitter feeling, is the proposed absorption by the North Eastern Railway of the Hull and Barnsley Railway and Dock Company. The import this week of linseed has been 39,240 quarters, making a total for the year of 663,777 quarters against 611,083 quarters a year ago. Linseed oil, after a relapse, closes firm at 19s. per cwt., naked, spot; December quoted 18s. 9d. per cwt., at which price there are sellers for January-April or May-August. Boiled and refined £1. to £2. per ton extra. Export for the week has been 760 cwt. Refined cotton oil very steady, with buyers at 15s. 3d. per cwt., naked, spot. Dec.-April is quoted 15s. 9d., and May-Aug. 16s. 6d. Crude is

13s. 9d., naked, spot, and 14s. 4½d. December-April. Casks £1., and ordinary barrels 30s. to 32s. 6d. per ton extra. Olive oil from £32. 10s. to £36. per ton, according to origin. Castor oil firm, first pressure from 2¼d. per lb. Cod oil from £16. 10s. to £19. per ton. Herring oil £14. per ton. Boiled siccative oil £13. per ton. Spirits of turpentine unchanged. Liquid soap, £16. per ton.

CAKES.—The general demand remains quieter, but without material alteration in prices. Linseed cakes, 95% pure, £6. to £6. 2s. 6d. Oil cakes £5. 2s. 6d. Russians, £5. 12s. 6d. to £5. 15s. per ton. Cotton Cakes: best makes, £3. 15s. to £3. 17s. 6d. per ton; seconds, £3. 12s. 6d.; best makes, Dec.-April, £3. 12s. 6d. to £3. 15s. Rape Cakes: Black Sea, £2. 2s. 6d. to £2. 5s.; feeding, £3. 15s. per ton.

PAINTS only in quiet demand, but makers continue moving. White lead, £16. per ton. Red lead, £14. per ton. Oxide of zinc unchanged. Dry mineral colours unaltered, from £4. to £8. per ton f.o.b. Black blue, red oxide, venetian red, green and yellow ochre paints, from £11. per ton. Ready mixed paints in 1, 2, 4 and 7 lb. tins from £24. per ton. Paint remover, 25s. to 30s. per cwt. Oak varnish from 5s. 6d. per gallon. Imperial black varnish, £5. 10s. per ton. Locomotive grease, £12. per ton.

REPORT ON MANURE MATERIAL.

A very quiet feeling pervades the market, and where there is any alteration it is generally towards easier prices. Mineral phosphates are still neglected, quotations remaining unchanged, although business would be possible at slightly reduced rates for round quantities. For a fair sized cargo River Plate bones, £3. 15s. has been refused, sellers asking £3. 17s. 6d.—probably £3. 16s. 3d. would be accepted. Crushed Kurrachee bones are still held for £4. per ton, ex quay Dec.-Jan. or Jan.-Feb. delivery, but no business is reported. Bombay bone meal, shipment early next year, has been sold at £3. 17s. 6d., ex quay Liverpool, and there are still sellers thereat. Nitrate of soda is without new feature. The low prices have had the effect of closing several works, and the tendency is towards a decreased output until there is some revival. Values of cargoes Oct.-Dec. sailing is 7s. 7½d. per cwt. Spot price is 7s. 7½d. ordinary, and 7s. 9d. for refined quality, in retail quantities.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is steady, with fairly good sales reported in Lagos at £20. 15s.; soft oil £19. 12s. 6d., and Benin £19. 7s. 6d., all transit. Olive is very steady, and the small business doing reveals a tendency towards higher values. Linseed continues firm, with prices standing at 20s. 9d. to 21s. 6d., in export casks, for Liverpool makes. Cottonseed is steady, with increased firmness in American; Liverpool refined is steady at 17s. 6d. to 18s., and American 18s. to 18. 3d. per cwt. Castor oil, owing to shortage, is very firm. Good seconds Calcutta having been cleared on spot, the price is steady at 2¼d., sellers. First pressure French still stands at 2¼d. per lb. Tallow continues in moderate demand without change in values. There has been a fair business in resin, which owing to the firmness with which this article is held has been done at full rates. Spirits of turpentine are strong, with a fairly good inquiry for spot at 20s. 6d. per cwt. Petroleum keeps firm at figures last quoted, viz, American 7¼d. to 8¼d., and Russian refined 6¼d. per gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15. Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead unchanged. Venetian red, £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide, £22. 10s. to £25.

LIVERPOOL MINERAL MARKET.

Our market continues to rule firm. Manganese: Arrivals have been practically nil, and stocks have been further very much reduced. The demand is fair, and prices are firm, with an upward tendency. Ground manganese continues to meet with a good demand at £6., £8., £10., and £12. 10s. per ton according to quality. Manganiferous iron ore continues firm at 16s. to 17s. 6d. per ton, c.i.f. Chrome ore: Arrivals have fallen off; what has arrived has gone into direct consumption, and stocks are nil. The demand is good, and prices are firm at last week's quotations. Bauxite: The demand continues good, and the prices are

firmer: 20s. for first, 16s. for second, and 12s. 9d. for third quality in cargoes. Irish Iron ore is quiet at 8s. to 10s. per ton; Spanish other qualities are quiet, but firm. French chalk: Arrivals have far short of the requirements, while stocks are completely exhausted, therefore are firm at 70s. to 75s., 80s. to 90s., and 10 110s. per ton for "Angel White" qualities, according to Magnesite continues unusually low, but with the probability, increased consumption for specific purposes prices no doubt will advance. Wolfram and scheelite: Stocks are very small, and are firm, with a good inquiry. Arsenic is strong at 17s. to 1 per cwt. Fuller's earth continues in very good request, and is at full prices—lump 50s., ground 55s., and impalpable powder 7 per ton. Rottenstone: Prime qualities are scarce. Ochres and continue steady; J.C. ochre being done at 60s. to 65s. per ton to prime umber at 40s. Oxides of iron: Good strong staining £6. to prime qualities £18. to £20. per ton. Carbonate of barytes is but with the winter supply we will no doubt see a change; sulphate of prime quality, is scarce, the demand is good and prices are firm and feld spars are steady without alteration. Emery is rather quiet: Prime Turkish at 70s. to 80s., and Naxos at last, and likely to go higher. Mica: Prime ground qualities £15., and £25. per ton. Bog ore continues in good request at 22s. 6d. per ton. Plumbago meets with a good demand for foundries' and cating purposes at £6. to £10. per ton, and prime Ceylon at £18. per ton. Pumice stone: Prime £10. to £12. per ton, pot £7. to £8. per ton.

MISCELLANEOUS CHEMICAL MARKET.

Business in the alkali trade continues moderately good, but prompt and forward deliveries, and prices are well maintained. Bleaching powder £7. 7s. 6d. to £7. 10s. per ton, f.o.b. Live and £7. per ton, f.o.r. makers' works, are current quotations. Ammonia, 58%, £3. 17s. 6d. to £4., f.o.b., and £3. 7s. 6d., bags, in works. Soda crystals, bags, 35s. per ton. Caustic soda, both p and forward delivery, unchanged in value, and prices, f.o.b. Live are as follows: 77%, £9. 10s.; 74%, £8. 1cs.; 70%, £7. 10s. £6. 10s. nett per ton, 10-ton lots and upwards. Chlorate of 4½d. per lb.; chlorate of soda 6½d. per lb. Sulphur £3. 12 f.o.r. Saltcake 27s. 6d. per ton for forward delivery. Nitrate of 7s. 6d. per cwt., Garston. Sulphate of copper £16. 5s. per ton, Demand continues fairly active for potash, caustic and carbonate prices are well maintained. Cyanide of potassium, 98%, 11. 1s. 5d. per lb. Yellow prussiate of potash 7¼d. to 8d. p according to make. Acetates of lime, brown and grey, rather for forward delivery. Acetic acid in good request. Acetate of quiet, and lower prices ruling. White powdered arsenic sea £15. 15s. to £16. per ton nett, Garston. Carbolic acid crystals at 6¼d. per lb. Aniline oil and salt rather tending upwards in Sulphocyanides in fair request, but prices are unaltered. Tin rather easier at 5¼d. per lb. No decided improvement is yet visible in any branches of the chemical trade.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

The general market is perhaps a shade quieter, but prices whole are fairly well maintained. Over-sea orders are becoming rather scarce, but home and inland requirements, being a respite bulk, prevented this from being shown on the surface to any pronounced extent. Sulphate of copper is again cheaper according report, and the feeling is that it is to give way still further. Soda has been gaining, and now fetches better value. Mineral oil paraffins do not show any change to speak of, the makers sticking to agreement prices, even in the case of paraffin spirit, which temporarily lost its best outlet owing to the shipbuilding stop Sulphate of ammonia remains very weak around £8. 15s. for p f.o.b. Leith, but with buying easier than selling at that. Forward dealing is at a standstill. Makers speak of £9. 5s. a buyer at present will look at that.

Chief prices current are:—Soda crystals, £2. 2s. 6d., home, nett, soda ash, 48/56°, £3. 15s. to £4. 5s. nett, Tyne; white, 48/52°, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. Glasgow; caustic soda, white, 76° £9. 5s., 70/72° £7. 15s., £6. 15s., and cream 60/62° £6. 10s., all nett, Liverpool; bleaching powder, £6. 10s. to £7. nett, Tyne; saltcake, 27s. 6d.; borax, E refined, £20., and boracic acid, £30. nett, Glasgow; bicarbonate soda, 5-cwt. casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries export, 4¼d. nett, f.o.b. Glasgow; bichromate of soda, 3¼d. net Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 4¼d. less 5%, Liverpool; nitrate of soda, 7s. to 8s.; sulphate of ammonia, about £8. 15s. prompt, f.o.b. L

onic, first and second white, £39. and £37. nett, any port; of copper, £16. 5s. to £16. 10s., less 5%, Liverpool; paraffin ard, 2½d., and soft, 1½d. to 2½d. per lb.; paraffin wax, 120° fined, 2½d. to 2¾d.; paraffin spirit (naphtha), 7½d. to 8d. per lb.; paraffin oil (burning) No. 1, 6½d., and crystal, 6¾d., at works, for buyers (English sales about ½d. lower); ditto (lubricating) No. 1, 10s. to 14s., 880° £5. to £5. 5s., and 890/895° £5. to £6. 10s. Week's imports of sugar at Greenock were 1,000 baskets cane unrefined, 9,000 bags beet unrefined, and 5,010 cwt. refined.

TYNE CHEMICAL REPORT

TUESDAY.

Chemicals are dull and unchanged in price, the business passing only moderate. Sulphur is scarce, at £4. per ton, and caustic soda, 76/77% in fair demand at £9. to £9. 10s. per ton. Soda ash, 2. 2s. 6d. per ton, gross weight, locally.

Whiting powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton, nett; caustic soda, 76/77%, £9. 10s. per ton, nett; do., 70%, £7. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £4. ton, nett; do., 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ton, nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; 80° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 2s. 6d. per ton, nett; do., 2 cwt. bags, £2. 2s. 6d. per ton, nett weight; soda of potash, 5d. per lb., less 6%; pearl hardening, 1 ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, 1 ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, 15s. per ton, nett.

T.—South Durham salt, 9s. 6d. per ton, f.o.b., Tees, with a small loss doing.

LS.—Though trade is slightly better, there is no great improvement to report, short time being general at many of the ports. To-day's prices are as follows:—Best Northumbrian 8s. to 8s. 6d. per ton; second qualities, 7s. to 7s. 6d. per ton;

small steam, 3s. 9d. to 4s. per ton; bunker coals, unscreened, 6s. to 7s. per ton; household coals, 10s. to 11s. per ton; gas coals, in good demand, 6s. 6d. to 7s. 3d. per ton; coke, steady, and consumption steady, 14s. 6d. to 15s. per ton.

New Companies.

Port Dundas Brick Co., Ltd.—CAPITAL £5,000, in £5. shares. This Company has been formed to lease clayfields in the neighbourhood of Glasgow, and to carry on the business of brick manufacturers, &c.

Electrolytic Research Co., Ltd.—CAPITAL £1,000, in shares of £1. each. This company has been formed to acquire, develop, and turn to account any patented inventions relating to the electrolytical production of chrome metals.

French Pegamoid Syndicate, Ltd.—CAPITAL £75,000, in £1. shares, of which 25,000 are preference. This company has been formed to carry on the business of paper, paper pulp, and board manufacturers, paper stainers, woollen manufacturers, and waterproofers. The subscribers to the memorandum of association are:—E. E. Shaw, Heatherden, Weybridge, gentleman; M. Duboky, 1, Cité Paradis, Paris, merchant; A. G. Shaw, 28, Lower Sloane-street, S.W., gentleman; F. B. O. Hawes, 1, Wellington Chambers, Buckingham Gate, C.E.; J. C. Wolfe, 18, Eckstein-road, S.W., secretary; J. J. Byers, 123, Ashley Gardens, S.W., merchant; A. Gray, The Mansion, Froggnal, N.W., engineer.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

R. H. SMITH and W. P. H. MEAGHER, soap makers, under the style of Merriman and Co., Preston.

W. I. CHAPMAN, A. H. E. WOODS, and J. C. HOLME, cement manufacturers, Deptford and Sunderland, under the style of Matteson and Chapman, so far as regards W. I. Chapman.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

BAINBRIDGE, H. B., Selby-road, Anesley, S.E., carrying on business as the Camden Chemical Company, Pratt-street, Camden Town, N.W., and elsewhere, manufacturing chemist.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

ending November 23rd.

Acid—
d, 20 pks. G. Rahn & Co.
9 F. Stahlschmidt
138 A. & M.
Zimmermann

S—
d, 1 pk. T. H. Lee

d, 150 pks. R. W. Greeff & Co.

BY, 5

BY, 10 pks. G. S. N. Co.

BY, 8 pks. P. Jantzen
40 Brandram Bros. & Co.

BY, £12
240 W. Byford
8 Mory & Co.
16 Girard Frs. & Co.

Chloride—
d, 27 pks. Petri Bros.

S—
d, 115 cks. W. Harrison & Co.
22 S. H. Willoughby
27 J. L. Lyon & Co.
18 Robertson, Selley & Co.

d, 48
8 Taylor Bros.
n, 26 J. P. Nightingale
W. Harrison & Co.

e—
BY, 10 pks. A. & M.
Zimmermann

BY, 5 pks. R. Warner & Co.

Caoutchouc—

Germany, 18 c. L. & I. D. Jt. Co.
Natal, 20 Prop. Bull. Wf.
Zanzibar, 3 L. & I. D. Jt. Co.
Cape Town, 33 F. Huth & Co.
Germany, 26 Lewis & Peat
Natal, 32 Prop. Bull. Wf.
Germany, 30 E. Boustead & Co.
Penang, 158

Castor Oil—

Egypt, 20 cs. F. Boehm.
Italy, 50 J. Knill & Co.

Caustic Potash—

Belgium, 10 pks. Petri Bros.
France, 9 J. A. Reid

Caustic Soda—

Holland, 4 c. J. Barber & Co.
Chemicals (otherwise undeciphered)
Holland, 7 pks. F. Boehm

" 45 J. Barber & Co.
" 10 cks. T. H. Lee
Germany, 8 cs. H. Lambert
" 10 L. & I. D. Jt. Co.
" 5 Phillips & Graves
" 118 A. & M.

" 76 Zimmermann
Holland, 20 45 A. & M.
Zimmermann

Belgium, 27 T. Palmer
" 5 J. Owen

Citric Acid—

France, 4 pks. B. & F. Wf. Co.

Cobalt Ore—

Australia, 57 t. A. Frey & Co.

Cream of Tartar—

Holland, 2 pks. Kirkpatrick & Co.
Portugal, 15 Fellows, Morton.
Spain, 11 W. C. Bacon & Co.

Dextrine—

Germany, 300 pks. W. Balchin
" 50 50 bgs. Hernu, Peron & Co.
France, 20 C. A. Comyn

Dyestuffs—

Annatto
France, 5 pks. C. Faust & Co.
" 1 Fullwood & Bland

Argols

Cape Town, 3 pks. J. R. Thompson & Co.
Italy, 100 Thames S. T. & L. Co.

Gochineal

Canaries, 13 pks. J. W. Borland
" 13 G. S. Bruce
" 30 Knowles & Foster
" 12 Swanton & Co.
" 16 Sperling & Williams

Gutch

Rangoon, 100 pks. J. Graves
" 250 A. Howden & Co.
" 250 Leach & Co.
" 200 Dalton & Young
" 93 G. Ward & Sons

Extracts

France, 2 pks. Union Ltge. Co.
U. States, 50 L. & I. D. Jt. Co.
Denmark, 1 A. F. White & Co.

France, 200 T. H. Lee
Canada, 80 A. J. Humphery
Germany, 200 J. Knill & Co.
U. States, 50 Skilbeck Bros.

" 50 W. Burton & Sons
Denmark, 2 cks. M. D. Co.
" 5 cs. Sorensen & Co.

Fustic

B.W.I., 68 t. Boddington & Co.

Gambler

Singapore, 255 pks. Marshall & French
" 1475 W. Balchin
" 492 Brown & Elmslie

Singapore, 455 pks.

" 1,373 Sollas & Sons
" 104 Brinkmann & Co.
" 525 Ross & Deering
" 2,381 E. Boustead & Co.
China, 378 R. & J. Henderson
L. & I. D. Jt. Co.

Indigo

E. Indies, 5 cts. Schonlank,
Engel & Co.

" 9 R. von Glehn & Sons
" 60 Parry & Co.
" 23 Croysdale & Co.
" 8 P. Macfadyen & Co.
" 1 Gray, Dawes & Co.
" 15 Arbutnot, Latham & Co.

" 16 L. & I. D. Jt. Co.

Logwood

B. W. I., 90 t. L. & I. D. Jt. Co.
" 17 S. Dobree & Sons

Saffron

Spain, 1 pk. J. Knill & Co.
" 1 B. & N. Wf. Co.
" 1 Dawson Bros.
" 1 Richardson, Spence & Co.

Shumac

Italy, 500 pks. J. Kitchen, Ltd.
" 500 Beresford & Co.
" 200 J. E. Scott

Tanner's Bark

Natal, 108 t. L. & I. D. Jt. Co.
" 106 Boucher, Mortimore & Co.

U. States, 1 bbl. S. Lambert & Co.

Durban, 30 t. Union Ltge. Co.
" 81 A. & W. Nesbitt
Natal, 12
" 34 Flack, Chandler & Co.

Belgium, 56 Leach & Co.

Turmeric

E. Indies, 64 pks. Brown & Elmslie

Valonia A. Turkey, 155 t. " 110 " 1		A. & W. Nesbitt Hicks, Nash & Co. Barry Bros.	
Farina— Germany, 50 pks. France, 5 Germany, 100 U. States, 18		Beck & Pollitzer Hernu, Peron & Co. G. Hornzee Weston, Hunt & Co.	
Holland, 7 Germany, 10 " 100 Holland, 150		Phillipps & Graves M. D. Co. W. Ritchie & Son R. G. Hall & Co.	
" 75 Singapore, 2,602		J. Knill & Co. L. & I. D. Jt. Co.	
Glucose— U. States, 500 pks		500 c. R. G. Hall & Co.	
" 500		500 c. Pearce, Pelly & Co.	
Germany, 52		430 J. Knill & Co.	
U. States, 500		500 L. Sutro & Co.	
" 250		250 L. Norman & Co., Ltd.	
" 250		250 S. E. Rail	
" 400		2,350 T. M. Duche	
" 100		600 T. J. Lipton	
" 250		250 L. & N. W. Rly.	
" 250		260 Trier, Meyer & Co.	
" 1,000		1,000 L. & I. D. Jt. Co.	
" 500		500 Thames S. T. & L. Co., Ltd.	
Germany, 18		124 M. D. Co.	
U. States, 850		2,600 Union L. Co.	
" 750		750 G. Clark & Son	
Glue— " £1,726			
Guan— Peru, 955 t.		Anglo-Contl. G. Wks.	
Litharge— Holland, 50 cks.		Spies Bros. & Co.	
Manganese— Germany, 10 t.		C. S. Lovell	
" 11		T. H. Lee	
Manure— Holland, 205 t.		West & Penrose	
Germany, 4		T. Allen & Sons	
Holland, 330		Anglo-Contl. G. Wks.	
Germany, 10		Beresford & Co.	
France, 308		A. Hunter & Co.	
Sydney, 204		A. Gibbs & Sons	
France, 51		G. Mallard	
" 50		Anglo-Contl. G. Wks.	
Methyl Alcohol— Holland, 100 pks.		Lister & Biggs	
Mica— Ceylon, £215		W. M. Smith & Sons	
Germany, 5		A. Zumbach & Co.	
" 12		L. & I. D. Jt. Co.	
Molasses— U. States, 2,500 cks.		1,900 c. J. Newcomb	
" 300		1,720 L. Sutro & Co.	
Ochre— Holland, 2 cs. 7 pks.		Phillipps & Graves	
Plumbago— Ceylon, 337 cks.		J. Thredder, Son, & Co.	
Germany, 95 cs.		T. H. Lee	
" 163		E. & T. Pink	
" 1		J. Puddy & Co.	
Ceylon, 30 brls.		Doulton & Co.	
" 132		R. G. Hall & Co.	
" 292 cks.		C. Robotham	
Germany, 109		B. Galloway	
Potash— U. States, 11 c.		S. Lambert & Co.	
Potassium Carbonate— France, 100 c.		Petri Bros.	
" 50		J. A. Reid	
Belgium, 21		80 Spies Bros. & Co.	
France, 80		Petri Bros.	
Holland, 95		M. D. Co.	
Germany, 12 cks.		W. G. Blagden	
Holland, 40			
Potassium Chloride— Germany, 405 pks.		Bensler, Waechter, & Co.	
" 500		F. W. Berk & Co.	
Belgium, 50			
Potassium Permanganate— Holland, 10 pks.		J. Barber & Co.	
Potassium Sulphate— France, 150 pks.		Petri Bros.	
Pumice Stone— Italy, 55 c.		Acton & Borman	
" 11		London & Kirkcaldy	
" 4 t.		G. P. Nightingale & Co.	
" 4		O'Hara & Hoar	
Pyrites— Spain, 2,670 t.		C. Tennant, Sons, & Co.	
Rosin— U. States, 1,032 brls.		F. & S. Chiesman & Co.	
Salicylates— Holland, 12 pks.		J. Barber & Co.	
Saltpetre— E. Indies, 326 bgs.		Lucas & Spencer's Wf.	
Germany, 46 cks.		L. & I. Dk. Co.	
" 150		P. Hecker & Co.	
" 80		J. Hall & Son	
Holland, 10		Petri Bros.	
Silica— E. Indies, £185		Laurie & Co.	
Ceylon, 25		W. M. Smith & Sons	
Adelaide, 65		A. Haacke & Co.	
Germany, 250			
Soda Ash— Belgium, 4,220 c.		R. Waters	
Sodium Silicate— Holland, 25 pks.		Spies Bros. & Co.	
" 2		G. Rahn & Co.	
Starch— Holland, 40 pks.		G. Rahn & Co.	
Germany, 390		Seaward Bros.	
Belgium, 50		T. H. Lee	
U. States, 54		Cole & Carey	
Holland, 518		Little & Johnston	
U. States, 150		Beck & Pollitzer	
Holland, 200		Hernu, Peron, & Co.	
Belgium, 20		Leach & Co.	
" 40		T. Ronaldson & Co.	
Austria, 220		Sawer, Sons, & Co.	
Belgium, 50		R. G. Hall & Co.	
Germany, 880		Arnati & Harrison	
" 40		Horne & Co.	
Holland, 153		Phillipps & Graves	
Belgium, 332		F. Claydon & Co.	
Stearine— France, 100 bgs.		H. Hill & Sons	
" 50		Beck & Pollitzer	
Belgium, 451		H. Hill & Sons	
U. States, 10 pks.		L. & I. Dk. Co.	
Sulphur— Italy, 50 t.		Soundy & Sons	
" 20		J. Bessant	
" 550		W. C. Bacon & Co.	
" 5		Candle & Sons	
" 50		C. F. Webster & Co.	
" 5		J. Knill & Co.	
" 300		Brandram Bros. & Co.	
Tar Oil— Sweden, 150 cks.		Sieveling, Podmore & Co.	
Tartars— Italy, 22 pks.		Howards & Sons	
" 9		B. Jacob & Sons	
Tartaric Acid— Holland, 4 pks.		F. C. Devon & Co.	
" 28		B. & F. Wf Co.	
France, 28		W. M. Smith & Sons	
Holland, 8			
Turpentine— N. Russia, 27 brls.		Dussek Bros. & Co.	
Ultramarine— Holland, 5 cks.		T. M. Duche & Sons	
Belgium, 5 brls.		Leach & Co.	
Germany, 4 cs.		H. Brooks & Co.	
" 12 pks.		Steinhoff, Sons, & Co.	
Varnish— Canada, 6 pks.		Allan Bros. & Co.	
U. States, 5		L. & I. Dk. Co.	
Sweden, 1		Rosenberg, Loewe, & Co.	
Verdigris— France, 1 pk.		J. Barber & Co.	
" 1		H. Lorenz	
White Lead— Belgium, 15 cks.		Sawer, Sons, & Co.	
Germany, 19		R. Bew	
" 8		Spies Bros. & Co.	
" 20		Perkins & Homer	
Holland, 8		J. Barber & Co.	
Germany, 95		Steinhoff, Sons, & Co.	
Belgium, 16		Ross & Deering	
Holland, 48		T. & W. Farmiloe	
Belgium, 47		J. L. Lyon & Co.	
" 15		Robertson, Selley, & Co.	
Wood Pulp— Sweden, 40 pks.		Tough & Henderson	
Norway, 80		C. S. Lovell	
" 400		Christophersen, Andrews, & Co.	
" 161		Johnson & Jorgensen	
" 240		W. G. Taylor & Co.	
" 1,212		E. J. & W. Goldsmith	
Holland, 1,800			
Sweden, 82		W. G. Taylor & Co.	
Canada, 100		E. J. & W. Goldsmith	
Germany, 100		H. C. Everett	
" 49		L. & I. D. Jt. Co.	
Sweden, 5,722		Henderson, Craig, & Co.	
Norway, 2,732		W. E. Bott & Co.	
Zinc Oxide— Austria, 100 cks.		M. Ashby, Ltd.	
U. States, 100		"	
Germany, 10		Greiff & Co.	
" 100		F. Pryor	
" 50		M. Ashby, Ltd.	
Holland, 500		Soundy & Sons	

LIVERPOOL.

Week ending November 21st.

Acetic Acid— Rotterdam, 10 blns.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																</
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Amsterdam—
50 cks. 50 bgs.
1
100 bgs. G. G. Blackwell,
Sons & Co.
Amsterdam—
561 cks.
200 tcs.
170 brls. J. Nelson
& Sons, Ld.
331 ps.
300 hf.-pps.
10 cks.
2 brls.
8 cs.
1 ck.
1 brl.
10 brls.
100 bgs.
2,368 & qty.
53 cks.
198 10 brls.
90 bls.
3,225 H. Tyrer & Co.
392 bdl.
124
3 cks.
70 cks. 75 brls.

HULL.

Week ending November 23rd.

Amsterdam—
2 cks. Hutchinson
& Son
4 cks. Wilson,
Sons & Co., Ld.
40 cs.
5 cs. Wilson,
Sons & Co., Ld.
58 cs. Wilson,
Sons & Co., Ld.
1 bl. W. & C. L.
Ringrose
12 bgs. Wilson,
Sons & Co., Ld.
22 cks. Hutchinson
& Son
96 pks. W. & C. L.
Ringrose
265 cks. Bailey &
Leatham
22 H. F. Pudsey
77
6 brls.
11 cks. 10 pks. 10 dms.
Wilson, Sons & Co., Ld.
32 cks.
22 pks. 27 dms.
Wilson, Sons & Co., Ld.
6 cks. Hutchinson
& Son
7 Wilson,
Sons & Co., Ld.
3 Veltmann & Co.
30 brls. Wilson,
Sons & Co., Ld.
169
41
4 cks. Wilson,
Sons & Co., Ld.
19
163 131 pks. 10 cs.
W. & C. L. Ringrose
1 Bailey & Leatham
17 41 brls. Wilson,
Sons & Co., Ld.
3 5 brls.
Hutchinson & Son

Stettin, 32
Bremen, 20
Sons, & Co., Ld.
135 pks.
Sissons Brs. & Co.
Cottonseed Oil—
New York, 20 brls. Wilson,
Sons & Co., Ld.
260
5 cks. Wilson,
Sons & Co., Ld.
Dextrine—
Stettin, 100 bgs. Wilson,
Sons & Co., Ld.
Dyestuffs—
Alizarine
Rotterdam, 172 pks. 47 cks. W. &
C. L. Ringrose
Madder
Rotterdam, 2 cks. Hutchinson
& Son
Farina—
Harlingen, 100 bgs.
Ghent, 186 pks.
Stettin, 500 Wilson,
Sons & Co., Ld.
Glucose—
Amsterdam, 70 bgs. Hutchinson
& Son
Hamburg, 4 cks.
Stettin, 40 Wilson,
Sons & Co., Ld.
New York, 250 bgs. 99 brls.
Glue—
Rotterdam, 41 bgs. Hutchinson
& Son
Dunkirk, 57 cks. Wilson,
Sons & Co., Ld.
Hamburg, 20 bgs. W. & C. L.
Ringrose
6 cks.
Guano—
Aalesund, 1 bg. Wilson,
Sons & Co., Ld.
Limestone—
Antwerp, 2 crts. Wilson,
Sons & Co., Ld.
Ochre—
Rouen, 87 cks. Rawson &
Robinson
21
27 bgs. Wilson,
Sons & Co., Ld.
Paint—
New York, 30 cs. Wilson,
Sons & Co., Ld.
Boston, 41
50 t. Wilson,
Sons & Co., Ld.
Ghent, 2,348 bgs.
Pitch—
Rotterdam, 25 cks. W. & C. L.
Ringrose
Hamburg, 2 brls. H. F. Pudsey
Plumbago—
Ghent, 5 cks. Wilson,
Sons & Co., Ld.
Potash—
Dunkirk, 1 dm. Wilson,
Sons & Co., Ld.
Rotterdam, 500 bgs.
Quicksilver—
Hamburg, 18 brls. Wilson,
Sons & Co., Ld.
Saltpetre—
Rotterdam, 28 cks. Hutchinson
& Son
Antwerp, 20 bgs. Wilson,
Sons & Co., Ld.
Hamburg, 5 cks. Lofthouse &
Saltner
Soap—
Riga, 12 cs. Wilson,
Sons & Co., Ld.
New York, 1 brl.
Sodium Chlorate—
Rouen, 2 cks. Rawson &
Robinson
Starch—
Rotterdam, 240 cs. Hutchinson
& Son
Antwerp, 105 W. & C. L. Ringrose
Amsterdam, 160 W. Gilyott & Co.
Bremen, 40 Hutchinson & Son
2,351 Veltmann & Co.
Stearine—
Antwerp, 10 bgs. Wilson,
Sons & Co., Ld.
12

Boston, 8 trcs.
Tallow—
St. Petersburg, 25 cks. Wilson,
Sons & Co., Ld.
Tartar—
Bordeaux, 5 cks. Rawson &
Robinson
Tartaric Acid—
Rotterdam, 4 cks. Hutchinson
& Son
Treacle—
Boston, 350 brls. 740 pks.
Wilson, Sons & Co., Ld.
Turpentine—
Bordeaux, 10 brls. Rawson &
Robinson
Ultramarine—
Bremen, 1 ck. J. & T. Seddon
6
Varnish—
New York, 8 brls. 10 pks.
Wilson, Sons & Co., Ld.
3 brls.
Waste Salt—
Hamburg, 500 bgs.
White Lead—
Rotterdam, 66 cks. W. & C. L.
Ringrose
Antwerp, 45 Bailey & Leatham
Wood Pulp—
Hamburg, 200 bls.
Zinc Oxide—
Hamburg, 25 cks. Bailey &
Leatham
Zinc White—
Hamburg, 8 cks. Bailey &
Leatham

MANCHESTER.

Week ending November 23rd.

Albumen—
Hamburg, 10 cks.
Alumina—
Hamburg, 1 ck.
Cadmium Nitrate—
Hamburg, 1 cs.
Chemicals (otherwise undescribed)
Rouen, 30 cks.
Rotterdam, 20 1 cs.
Chromium Acetate—
Rotterdam, 10 cks.
Colours—
Rotterdam, 17 cks. 26 cs. 57 bxs.
Hamburg, 140 brls.
Antwerp, 7 J. T. Fletcher
& Co.
8 10 cs. 27 pks.
Cottonseed Oil—
Rotterdam, 100 brls.
Cream of Tartar—
Barcelona, 20 brls.
Dyestuffs—
Alizarine
Rotterdam, 93 cks.
Extracts
Treport, 10 cks. 8 cs.
Logwood
Black River, 402 t.
Farina—
Harlingen, 50 bgs.
Gelatine—
Rouen, 10 cs.
Glue—
Rouen, 9 cks.
Rotterdam, 160 bgs.
Treport, 34
5 5 cs. 10 bls.
Limestone—
Antwerp, 4 crts.
Litharge—
Rotterdam, 5 cks.
Ochre—
Treport, 42 cks.
Pitch—
Hamburg, 132 brls.
Potash—
Rouen, 12 cks.
Treport, 9 12 dms.
Antwerp, 13
Potassium Chlorate—
Stockholm, 50 kgs. Stott, Coker,
& Co.
Soda—
Rotterdam, 7 cks.
Antwerp, 15

Sodium Acetate—
Treport, 16 cks.
Starch—
Rotterdam, 175 cs.
Hamburg, 160
Antwerp, 140
Tannic Oxide—
Hamburg, 7 cks.
Tartaric Acid—
Rotterdam, 8 cks.
Ultramarine—
Rotterdam, 8 cks.
Waste Salt—
Hamburg, 1,000 bgs.
White Lead—
Rotterdam, 24 cks.
Antwerp, 6
Wood Pulp—
Christiania, 140 bls. W. H. Ingram
Drammen, 320
Stockholm, 500 16 bgs. Stott,
Coker, & Co.
Norrköping, 760
Gefle, 4,986
Rotterdam, 50
Sannesund, 497
Zinc Oxide—
Rotterdam, 65 brls.
Antwerp, 50 40 cks.

GLASGOW.

Week ending November 28th.

Acetic Acid—
Rotterdam, 24 cks. J. Rankine
& Son
Alkali—
Rotterdam, 20 dms. J. Rankine
& Son
Alum—
Hamburg, 63 cks.
Aniline—
Rotterdam, 3 cks. 5 cs. J.
Rankine & Son
Barytes—
Rotterdam, 159 cks. J. Rankine
& Son
7 pks.
Bone Meal—
Bombay, 1,008 bgs.
Boracic Acid—
Leghorn, 11 cks.
Camphor—
Hamburg, 2 cks.
Castor Oil—
Leghorn, 20 cs.
Marseilles, 516 brls.
Chemicals (otherwise undescribed)
Hamburg, 1 cs.
Colours—
Hamburg, 10 cks. 5 cs.
Rotterdam, 2 1 J. Rankine
& Son
50 pks.
Cottonseed Oil—
New York, 55 brls.
Cream of Tartar—
Marseilles, 3 cks. 10 brls.
Barcelona, 12 25
Tarragona, 12
Dried Blood—
Rouen, 4 cks.
Dyestuffs—
Alizarine
Rotterdam, 63 cks. 1 cs. J. Rankine
& Son
70 pks.
Extracts
Havre, 21 cks.
Genoa, 45 brls.
Logwood
Black River, 571 t. Mucklow & Co.
Jamaica, 256 M'Arthur, Scott
& Co.
Myrabolams
Bombay, 1,326 bgs.
Sumac
Palermo, 700 bgs. 65 bls.
Farina—
Delfzyl, 575 bgs.
Hamburg, 100
Gelatine—
Hamburg, 5 cs.
Rouen, 5

Sulphate—	
50 t.	£50
Carbonate—	
10 kgs.	£17
Nitrate—	
5 cks.	£24
1 t.	24
1 t.	£10
10 c.	14
1 5	15
Acid—	
1 t. 18 c.	£18
30 cs.	24
3 15	34
Phosphate—	
110 t.	£330
Phosphate of Lime—	
15 t.	£55
ic Acid—	
2 c.	£12
2	14
5	30
1 t.	4 pks 167
8 cs.	50
3	19
5	30
7	35

VERPOOL.

ending November 27th.

Acid—	
1 t. 12 c. 1 q.	£9
1 t. 11 c.	£140
10	40
08 cks.	
Waste—	
10 t. 4 c.	£28
1 t.	£7
5 5 1	26
1 18 2	6
1 12 2	7
2	10
36 9	116
2 10	14
14 13	75
1	5
1	5
na Sulphate—	
9 t. 8 c. 2 q.	£76
nous Cake—	
4 t. 4 c. 3 q.	£17
30 2 1	75
ium Carbonate—	
9 c. 2 q.	£15
6	10
1 t.	10
37	36
ium Chloride—	
1 t. 11 c.	£55
10	12
2	71
2	74
21 14	527
2	4
2	72
5 2 q.	10
1 4 3	46
4 1	5
ium Sulphate—	
1 t. 5 c.	£12
30 11	275
10 6	95
87 2 2 q.	788
2 3	22
ony—	
2 cks.	
14 brls.	
18 c.	
os—	
2 cs.	
ing Powder—	
136 cks.	
894	
40 bxs.	
6	
8 brls.	
57	
25	
382	
60	
4 cs.	

Rouen,	72	
Salonica,	5	
Boracic Acid—		
Rotterdam,	15 c.	£22
Borax—		
Rotterdam,	16 t. 7 c. 3 q.	£335
Antwerp,	20 12 2	413
Portland, M.,	1 18 2	39
Yokohama,	3 8 2	65
Cadiz,	1	20
Tampico,	11 3	11
Calcium—		
Sydney,	5 t. 8 c.	£13
Calcium Chloride—		
New York,	10 t.	£21
Melbourne,	10 2 c.	23
B. Ayres,	9 19	22
Campnor—		
New York,	1 cs.	
Caoutchouc—		
Rio de Janeiro,	2 cs.	
Carbolic Acid—		
Mosel Bay,	9 c. 3 q.	£11
Madras,	2 cs.	10
Rotterdam,	11 t. 7	150
Hamburg,	14 19	357
Philadelphia,	6	34
M. Video,	16	41
New York,	5	262
Castor Oil—		
Addah,	10 cs.	
Patras,	1	
Caustic Potash—		
Calcutta,	5 c.	£9
New York,	8 l. 18	224
Caustic Soda—		
Adelaide,	55 dms.	
Algoa Bay,	18	
Antwerp,	25 brls.	
Bahia,	825	
Baltimore,	180	
Barcelona,	290	10 cks.
Bilbao,	30	
Bombay,	60	
Boston,	300	100
B. Ayres,	235	
Calcutta,	60	
Callao,	110	
Cape Town,	8 cs.	
Catania,	34	
Chicago,	50	
Corunna,	10 12	
Galatz,	45	
Genoa,	123	
Hamburg,	159	
Havana,	50	
Hiogo,	50	
La Guayra,	10	
Leghorn,	49	
Libau,	70	
Malaga,	42	
Melbourne,	50	
Messina,	115	
Milwaukee,	300	
M. Video,	135	
Montreal,	85	50 pkgs.
Naples,	34	40 t. 4 c.
N. Orleans,	227	
Newport N.,	1,092	
New York,	754	
Oporto,	339	
Paris,	34	
Pernambuco,	155	
Pimental,	18	
Pt. Natal,	15 bxs.	
Port Said,	2 cs.	
Porto Alegre,	60	
Rangoon,	50	
Rio de Janeiro,	57	
Rouen,	1	
Salonica,	17	
Savannah,	75	
Santos,	50	
Seville,	50	
Singapore,	18	
Sydney,	168 pkgs.	
Trinidad,	7	
Trieste,	15	
Yokohama,	200	

Chemicals (otherwise undescribed)

Boston,	9 t. 16 c.	£675
New York,	5 2	166
Lisbon,	11	20
Nantes,	1 19	65
Philadelphia,	12 17	422
Sierra Leone,	1	7
Kurrachee,	18	31
Mersyne,	8	14
Christiania,	4	7
Oporto,	3	5
Smyrna,	1	37
Beyrout,	1 10	55

Barcelona,	1	37
Gothenburg,	10	19
China Clay—		
Barcelona,	10 t.	
Boston,	1,252	
Naples,	40 cks.	
New York,	344	
Philadelphia,	60	
Coal Products—		
Aniline Colours		
Calcutta,	4 cs.	
Aniline Oil		
Boston,	15 dms.	
Philadelphia,	5	
St. Nazaire,	1	
Aniline Salts		
Boston,	40 cs.	
New York,	50	
St. Nazaire,	20 cks.	
Naphtha		
Adelaide,	40 dms.	
B. Ayres,	50	
Melbourne,	20	
Sydney,	14 cs.	
Pitch		
Conakry,	5 brls.	
Marseilles,	600 t.	
Naples,	134	
Tar		
Pram Pram,	5 brls.	
Rangoon,	10	
Tar Salts		
New York,	3 t.	£110
Boston,	6 cks.	
Cobalt Oxide—		
Rotterdam,	2 c. 1 q.	50
Hamburg,	2	50
Copperas—		
Sydney,	5 t.	£9
Adelaide,	21	36
San Francisco,	14	25
Valparaiso,	2 15 c.	6
Copper Sulphate—		
Rouen,	20 t. 5 c. 3 q.	£315
Odessa,	3	50
Bordeaux,	10 1	166
Melbourne,	2	31
Tampico,	19 18 1	305
Seville,	2 6 1	37
B. Ayres,	2 19	47
Nantes,	1 19	32
Algiers,	12 2 1	205
Naples,	15 1	225
Vera Cruz,	2 4	32
Cape Town,	2 2	2
Paris,	29 18	476
Lisbon,	5 1	83
Cadiz,	6 2	98
Syra,	10 2	9
Marseilles,	40 4 2	667
Callao,	10 10 1	170
Bombay,	2 10	42
Cream of Tartar—		
Valparaiso,	10 kgs.	£53
Disinfectants—		
Bombay,	3 t. 15 c.	£23
Shanghai,	2 4 1 q.	5
Calcutta,	2	76
Gelatine—		
Boston,	75 bxs.	
N. Orleans,	5 cks.	
New York,	100	
Glue—		
Nagasaki,	20 tins	
Rosario,	1 brl.	
Guano—		
Malaga,	20 t.	£180
Iron Oxide—		
Antwerp,	10 c. 2 q.	£26
Lime—		
Lagos,	20 brls.	
Monrovia,	50 bgs.	
Litharge—		
Syra,	20 kgs.	
Magnesia—		
M. Video,	8 c.	£7
Corunna,	1 cs.	
Havre,	60	
Magnesium Chloride—		
Geelong,	16 c. 2 q.	£10
Rotterdam,	5 t. 1	12
Magnesium Sulphate—		
Bombay,	24 bgs.	
Manganese—		
Adelaide,	3 cks.	
Manure—		
Genoa,	35 t. 13 c. 2 q.	£117
Lisbon,	4 18 2	34
Venice,	197 1	535
Mercuric Oxide—		
Pisco,	19 c.	£170

Metallic Sodium—		
Rotterdam,	3 t.	£593
Ochre—		
Algoa Bay,	40 kgs.	
Melbourne,	40 cks.	
Oxalic Acid—		
Rotterdam,	13 c.	£22
Baltimore,	3 t. 12	105
Paint—		
Accra,	25 kgs	
Arica,	2 cks.	
Barranquilla,	70	
Bathurst,	10 30	30 dms.
B. Ayres,	50	
Calcutta,	50	
Cape Town,	20	
Cartagena, N.G.,	7 cs.	
Genoa,	25	
Gibraltar,	6	
Halifax,	10 dms.	
Hamburg,	8 1	
Havana,	8	
Hong Kong,	30	
Ibrail,	40	
Lagos,	50	
La Libertad,	200	3 brls.
Las Palmas,	1	
Lisbon,	20	30 dms.
Manaos,	6	
Mayaguez,	120	
Mollendo,	10 cs.	
New York,	9 70	304
Para,	7	
Perim,	22	
Pernambuco,	64	
Piraeus,	56 3	
Portland, M.,	4	
Port Natal,	2	
Ponce,	66	
Prevesa,	1 brl.	
Quittah,	2	
Rotterdam,	16	
St. John's, Nfld,		
Santiago,	4	
Savannah,	10	
San Juan,	5	44 dms
Santander,		
Stockholm,	10	
Talcahuano,	38	
Valparaiso,	8 cs.	
Vera Cruz,	1 trs.	
Winnebago,	1	
Yokohama,	16 brls.	
Painters' Colours—		
Alexandria, 2 bxs. 2 brls. 150 kgs. 28 tins		
120 dms.		
Antwerp,	8 cks.	
Appam,	1 cs.	
Baltimore,	123	
Belize,	4 225 kgs.	
Bremen,	42	50 bgs.
Calcutta, 22		
Callao,	11 bxs.	
Cape Town,	2	
Constantinople,	1,150	46 brls.
Guayaquil,	80 dms.	
Hamburg,	48	5 brls.
Havana,	4	
Hiogo,	2 cs.	
Iquique,	53 1	
Las Palmas,	124	
Lisbon,	1	2 pkgs.
Malta,	5 3	
Manaos,	1	5 brls.
Monrovia,	25	6 dms.
Montreal,	1	
New York,	35	
Para,	4 cs.	
Philadelphia,	2	
Portland, M.,	3	
Paraffin Wax—		
Palermo,	5 bgs.	
Patras,	25	
Paris,	10 brls.	
Rio de Janeiro,	4 cs.	
Potash—		
Rosario,	5 c. 3 q.	£23
Potassium Bichromate—		
Vera Cruz,	3 c.	£6
Potassium Carbonate—		
Baltimore,	15 t. 8 c.	£270
M. Video,	11 2 q.	12
Potassium Chlorate—		
Odessa,	13 t.	£285
Amsterdam,	1 5 c.	74
Christiania,	2	80
Rotterdam,	1	72
Gothenburg,	5 14	256
Santos,	13	29
Calcutta,	8	16
Hamburg,	3 3	118

Yokohama,	2	10	100
Genoa,	2		85
Ghent,	2	10	90
Vera Cruz,	2	5	9
Copenhagen,	2	10	120
New York,	43	10	1,963
Hiogo,	25		1,035

Pumice Stone—

Rosario, 3 pkgs.

Salt—

Accra,	5 t	8 c.
Adelaide,		
Alexandria,	50	
Algoa Bay,	8	
Amsterdam,	150	
Antigua,	8	
Antwerp,	627	
Assinee,	11	
Baltimore,	602	
Barbadoes,	50	
Bayin,	5	
Belize,	415	
Berraco,	18	15
Boston,	220	
B. Ayres,	50	
Buguma,	70	
Calcutta,	2	2
Cape Lahou,	40	15
Cape Town,	150	
Copenhagen,	191	
Fernando Po,	3	
Genoa,		60 bls.
Gd. Bassa,	9	16
Gd. Bassam,	7	10
Gd. Lahou,	50	10
Hamburg,	113	8
Isles de Los,	6	5
Lagos,	75	
Manao,	44	4
Matadi,	5	
Mayaguez,	1	14
Melbourne,	110	
N. Orleans,	1,499	18
Newport News,	315	
New York,	15	15
Norroping,	47	13
Para,	287	3
Rio de Janeiro,		100 kgs.
Rotterdam,	251	
Rouen,	15	
San Pedro,	2	10
S. John's, N.E.,	404	
Salt Pond,	67	
Sierra Leone,	100	
Sydney,	56	10
Trinidad,	28	11
Winnabah,	17	10

Salt Cake—

Baltimore,	237 t.	3 c.	£303
Ghent,	70	11	73
Sydney,	5	2	45
New York,	3	15	75

Saltpetre—

Pernambuco,	2 t.	5 c.	3 q.	£59
Gd. Canary,	9			10
Braila,	1			24
Vera Cruz,	1	6		7
Maccio,	1	4	2	30

Sheep Dip—

Mossel Bay,	2 t.	10 c.	2 q.	£72
Punta Arenas,	4	5	3	220
B. Ayres,	22	12	2	538
Adelaide,	17			25

Soap—

Accra,	250 bxs.	
Alexandria,	68	8 cs.
Algoa Bay,	2,080	
Antwerp,	1,820	
Bangkok,	10	
Barbadoes,	898	
Belize,	300	
Bereby,	40	
Bombay,	1,040	
Boston,		500
Calcutta,		67
Calders,		1
Callao,		3
Canaria,	465	
C. C. Castle,	200	
Cape Town,	1,345	
Cartagena, N.G.,	10	
Constantinople,		25
Curacao,	550	
Delagoa Bay,	250	
Durban,	25	
E. London,	1,423	16
Ghent,	60	
Gibraltar,	434	20
Halifax, N.S.,		200
Havre,		2,271
Kurrachee,	688	5
Lagos,	100	
Las Palmas,	1,340	
Lima,		2
Madras,		2
Malta,	20	

Maranham,	7
Mauritius,	10
Melbourne,	9
M. Video,	528
Mossel Bay,	50
Natal,	100
N. Orleans,	480
New York,	640
Old Calabar,	112
Para,	1
Philadelphia,	1,523
Piraeus,	252
Pt. Natal,	100
Punta Arenas,	4
Rangoon,	1,000
Rio del Rey,	112
Rotterdam,	445
Sandy Point,	4
S. John's, N.E.,	640
Sapeli,	250
Sherbro,	250
Singapore,	210 pkgs.
Sierra Leone,	52
Trinidad,	2,102
Trieste,	1
Valparaiso,	5
Varna,	3

Soda Ash—

Barcelona,		50 brls.
Buffalo,		40
Callao,		70
Corfu,		80
Leghorn,		40
New York,	3,184 bgs.	439
Odesa,		185

Soda Ash—

Adelaide,		207 cks.
Antwerp,	100 bgs.	45 brls.
Bahia,		25
Baltimore,	3,809	142
Bombay,		22
Boston,	1,080	213
B. Ayres,	20 cs.	72
Cadiz,		200 brls.
Calcutta,		4
Callao,		101
Christiana,		50
Copenhagen,		38
Genoa,	75	
Ghent,	100	
Hamburg,		14
Havana,		195
Johannesburg,		4
Kobe,		8
Leghorn,		541
Maranham,		25
Melbourne,		50
Newport News,	2,135	
New York,	385	
Oporto,		41
Oporto,		12
Patras,		3
Philadelphia,	3,276	799
Plumari,	75	225 tcs.
Rangoon,		20 kgs.
Rio de Janeiro,		70
Rosario,		19
Rotterdam,		430
San Francisco,		192
Samarang,		47
Salonica,		80 brls.
Singapore,		35
Smyrna,	100	
Sourabaya,		10
Sydney,		35
Valencia,		102
Venice,		14
Volo,		10

Soda Crystals—

Bahia,		30 cks.
Bombay,	502 kgs.	
Boston,	150 bgs.	196
B. Ayres,		196 brls.
Callao,		68
Halifax, N.S.,	20	35
M. Video,		67
N. Orleans,		140
Philadelphia,		280
Rio de Janeiro,		7
St. Mary, Ont.,	15	
Samarang,		25
St. John's, N.E.,	20	

Sodium Arseniate—

St. John's, N.E., 5 cks.

Sodium Bicarbonate—

Aarhus,		5 kgs.
Adelaide,		5 cks.
Algoa Bay,	40	113 bgs.
Amsterdam,	20	100
Antwerp,	20	
Baltimore,	200	
Batavia,	20	
Bombay,	769	
Bordeaux,	90	
B. Ayres,		25
Calcutta,	600	

Christiana,	30
Copenhagen,	60
Danzig,	24
E. London,	5
Genoa,	37
Halifax, N.S.,	90
Hamburg,	12
Hiogo,	100
Johannesburg,	40
Kurrachee,	400
Leghorn,	51
Libau,	100
Malta,	
Marseilles,	25
Melbourne,	167
Montreal,	50
Naples,	100
N. Orleans,	300
Newport News,	375
New York,	300
Palerino,	35
Paris,	40
Pt. Natal,	40
Samarang,	40
Stettin,	10
Tampico,	100
Trinidad,	25
Valparaiso,	20
Vera Cruz,	20
Yokohama,	500

Sodium Carbonate—

Halifax, 15 tcs. 25 kgs. 5 cks. 480 bgs.

Sodium Chlorate—

Boston,	75 kgs.
Hamburg,	10
Rotterdam,	10
Tampico,	20
Vera Cruz,	4 cks.

Sodium Oxide—

Messina, 10 c.

Sodium Prussiate—

Valencia, 1 ck.

Sodium Silicate—

Adelaide,	40 cks.
Bilbao,	20 brls.
Cartagena, N.G.,	10
Constantinople,	4
Galatz,	30 bgs.
Malta,	27
Newcastle,	12
Oporto,	14 dms.
Oporto,	40
Yokohama,	16
Zante,	15

Sodium Sulphate—

Bilbao,	18 cks.
Boston,	135
Gijon,	100
Hamburg,	17 brls.

Starch—

New York, 8 cs.

Stearine—

Maranham, 8 bgs.

Sulphur—

Bahia,	4 t.	18 c.	1 q.	£34
Kurrachee,	3		2	15
Lagos,	1	1		6
Boston,	202	10		658
Copenhagen,	30			108
Havana,	2			10

Superphosphate—

Gd. Canary,	1 t.	8 c.	£6
Sao Paulo,	20	1	55

Tartaric Acid—

Valparaiso, 20 kgs. £124

Terra Alba—

Philadelphia, 50 cks.

Treacle—

Antwerp,	2 cks.	5 hf.-pns.
Gefle,		317
Norroping,	300	
Rotterdam,	6 t.	5 c.
Terneuzen,	5 cks.	95 brls.

Turpentine—

Bathurst,		7 c.	2 q.	£10
Accra,		5 dms.		

Varnish—

Barcelona,		1 dm.	1 brl.
Calcutta,	50		
Cape Town,		3 cs.	
Champerico,	10		
Genoa,		3	
Hamburg,		1	
Leghorn,	9 cks.	3	
Malaga,	4		
St. John's, N.E.,		2	
Santander,		10	

White Lead—

Bahia, 1 t. 17 c.

Whiting—

Rosario,	5 brls.
St. John's, N.E.,	10

Zinc Chloride—

Bombay, 8 t. 20 c.

Zinc White—

Antwerp, 2 t.

MANCHESTER

Week ending November 27

Alkali—

Jaffa, 137 dms.

Ammonium Chloride—

Sydney, N.S.W., 4 cks.

Bleaching Powder—

Rouen, 3 cks.

Caustic Soda—

Rouen, 7 dms.

Chemicals (otherwise under-

Hamburg, 1 ck.

Rotterdam, 10 kgs.

Alexandria, 51 100 lb

Antwerp, 7 cs. 33 65

Cairo, 65

Coal Tar Dyes—

Hamburg, 4 cks.

Coal Tar Products (otherwise

described)—

Antwerp, 2 tins

Nantes, 200 t.

Linseed Oil—

Jaffa, 4 brls.

Paint—

Jaffa, 1 brl.

Pitch—

Antwerp, 303 t. 17 c.

Salt—

Rouen, 20 bgs.

Soap—

Alexandria, 1 ck.

Sodium Acetate—

Rouen, 1 ck.

Sodium Silicate—

Sfax, 10 cks.

HULL.

Week ending November 27

Alkali—

Genoa, 6 cks. 25 kg

Trieste, 20

Ammonium Sulphate—

Stettin, 200 bgs.

Antimony—

New York, 30 cks.

Bleaching Powder—

Bombay, 40 dms.

Bremen, 7 cks.

Helsingfors, 123

Stettin, 129

Borax—

Hamburg, 8 cks.

Helsingfors, 8

Stockholm, 19

Caustic Soda—

Bari, 17 dms.

La Plata, 17 cks.

Naples, 10

Rotterdam, 20

Wyburg, 2 10 cs.

Chemicals (otherwise under-

Antwerp, 6 cks. 38 c

Amsterdam, 3 43 pks.

Alexandria, 150 2

Bombay, 2,150

Bremen, 3 2

Catania, 30 2

Christiana, 5 988 6

Copenhagen, 27 10

Dronheim, 101 37 38 0

Gothenburg, 6 30

Hango, 20

Helsingfors, 200 2

Kurrachee, 622 1

Libau, 1

Naples, 3 95 20

Rouen, 18 20

Stettin, 16 13

Seed Oil—	
erp.	1,777 c.
erdam,	703
en,	10
tiansand,	68
nagen,	80
e,	200
enburg,	1,009
oro,	103
rdam,	2,375
nger,	21
ne,	853
te,	163
ote—	
York,	500 cks.
uffs (otherwise undescribed)	
n,	25 cks.
tiania,	30 bgs.
hgfors,	5 dms.
rdam,	3
n,	4
n,	13
mburg,	10 bgs.
ed Oil—	
erp,	30 c.
ndria,	3
ay,	405
tiansand,	137
tiansund,	10
tiania,	255
heim,	68
e,	35
urg,	360
ichee,	20
rdam,	35
nger,	12
n,	90
n,	1,000
re—	
irk,	100 t.
arg,	30
arg,	799
arg,	1 cs.
urg,	22 cks.
ndria,	44 kgs.
rs' Colours—	
rp,	10 cks. 2 cs. 2 pks.
ay,	4 168 123
m,	5
hagen,	6 3 14 dms.
rk,	2
heim,	5 70 pks.
hburg,	33
urg,	1
gen,	1
berg,	5 1
chee,	9
rn,	9 2
lles,	17
ia,	20
ork,	1
dam,	1 1
olm,	67 10
olm,	2 9 dms.
orus—	
dria,	12 cs.
dam,	56
dam,	56
rp,	65 t.
k,	186
dria,	1 ck.
agen,	15 bxs.
burg,	1 cs.
o,	1
olm,	1
agen,	75 cks.
olm,	10 bgs.
f,	27 cks.
burg,	28
am,	5
am,	7
p,	3 cks.
ria,	2
rim,	25 brls.
line—	
ria,	1 ck.
im,	1

Yarnish—	
Gothenburg,	2 cs.
Stettin,	10 cks.
Whiting—	
Bombay,	12 cks.

GLASGOW.

Week ending November 28th.

Albumen—	
Lisbon,	£25
Ammonium Sulphate—	
Barcelona,	27 t. 3¼ c.
Valencia,	203 11¼
Hamburg,	
Demerara,	158 16½
Palermo,	2 2
Bleaching Powder—	
Canada,	24 t. 2¼ c.
U.S.A.,	11 9
Borax—	
Melbourne,	£21
Sydney,	45
Caustic Soda—	
Seville,	30 t. 11¼ c.
China Clay—	
Rio de Janeiro,	13 t. 1¼ c.
Coal Products—	
Benzine	
France,	£26
Carbolic Acid	
Germany,	5 t. 13 c.
Creosote	
France,	£758
Naphtha	
France,	£40
Pitch	
Amsterdam,	249 t.
Rotterdam,	25
France,	£257
Leghorn,	390
La Rochelle,	120
Tar	
Christiania,	95 brls.
Rangoon,	£83
Tar Oil	
B. Ayres,	£63
Coal Tar Products (otherwise un-	
described)—	
Rotterdam,	5 t.
Cod Oil—	
Melbourne,	£60
Dextrine—	
Melbourne,	£40
Dyestuffs—	
Extracts	
Barcelona,	£68
Malayan,	£65. 17s.
Victoria, Aust.,	£114
Indigo Extract	
U.S.A.,	£75
Logwood	
Lisbon,	£60
Farina—	
Rio de Janeiro,	2 t. 2¼ c.
Glucose—	
U.S.A.,	3 t. 1 c.
Glue—	
E. London,	£27. 10s.
Linseed Oil—	
Algoa Bay,	4 t. 6½ c.
Singapore,	2 6½
Valparaiso,	17 9¼
Hiloilo,	18
Magnesium Sulphate—	
Rio de Janeiro,	£40
Manure—	
Trinidad,	12 t. 5½ c.
Paint—	
Jamaica,	£114
Singapore,	27
Sydney,	229
Valparaiso,	41
Painters' Colours—	
Natal,	£36. 10s.
Punta Arenas,	£52
Lisbon,	30
Cape Town,	111
Trinidad,	59
Paraffin Wax—	
Barcelona,	£275
Seville,	70
Arendal,	32
Christiania,	65
Genoa,	660
Leghorn,	182
Naples,	969
Palermo,	47

Phosphates—

Trinidad,	£207
Potassium Bichromate—	
U.S.A.,	£742
Yokohama,	210
Rotterdam,	198
Lisbon,	49
Rouen,	733
Victoria, Aust.,	51
Genoa,	570
Leghorn,	68

Potassium Prussiate—

Yokohama,	10 c.
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Rosin Oil—

Genoa,	£20
--------	-----

Salt—

Valparaiso,	375 t. 2 c.
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Saltcake—

Terneuzen,	303 t.
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Sheep Dip—

B. Ayres,	£54
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Soap—

Valparaiso,	1 t. 13½ c.
Demerara,	9 10½
Rangoon,	1 12½

Sodium Bichromate—

Rouen,	59 t. 14¼ c.
U.S.A.,	4 2
Genoa,	£290
Leghorn,	2 10½

Starch—

Antwerp,	1 t.
Rio de Janeiro,	4 7¼ c.

Sulphur—

Demerara,	£41
-----------	-----

Sulphuric Acid—

Rangoon,	£1,681
Trinidad,	42

Tallow—

Lisbon,	3 t. 13½ c.
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Treacle—

Christiania,	60 t. 9 c.
--------------	------------

Tin Crystals—

Lisbon,	£22
---------	-----

Varnish—

Durban,	£20
---------	-----

White Lead—

Durban,	£53
Adelaide,	51

TYNE.

Week ending November 23rd.

Alkali—	
Christiania,	5 t. 11 c.
Rotterdam,	12 7
Reval,	24 8
Ammonium Sulphate—	
Genoa,	10 t. 2 c.
Antimony—	
Hamburg,	2 t.
Rotterdam,	10
New York,	45
Copenhagen,	1
Reval,	10
Barium—	
New York,	18 t. 5 c.
Barytes—	
Hamburg,	200 t.
New York,	15
Bleaching Powder—	
Antwerp,	70 t. 11 c.
Hamburg,	135 7
Christiania,	15 3
Lisbon,	4 19
Oporto,	1 16
Rotterdam,	25 10
Aalborg,	2
Odense,	11 8
New York,	50 6
Copenhagen,	22 18
Harlingen,	35 1
Genoa,	125 7
Stockholm,	30 5
Carbolic Acid—	
Odense,	12 c.
Stockholm,	8
Caustic Soda—	
Antwerp,	5 t. 6 c.
Hamburg,	19 1
Stavanger,	1 10
Terneuzen,	2 14
Rotterdam,	23 18
New York,	43 10
Copenhagen,	2 18
Genoa,	55
Colours—	
Genoa,	1 t. 12 c.

Fluorspar—

New York,	160 t.
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Litharge—

Hamburg,	10 t. 5 c.
Oporto,	1 2

Magnesia—

Hamburg,	2 c.
Copenhagen,	1 t.
Genoa,	5 9 cs.

Manure—

Valencia,	265 t. 10 c.
-----------	--------------

Paint—

Antwerp,	1 t. 3 c.
Hamburg,	14
New York,	10
Genoa,	2

Soda—

Christiania,	5 t.
Lisbon,	34 19 c.
Oporto,	8 5
Randers,	33 19
Rotterdam,	30 4
Odense,	9 6
New York,	108 3
Genoa,	28 3
Stockholm,	73 18

Soda Ash—

Lisbon,	15 t. 9 c.
Stockholm,	74 17

Sodium Sulphate—

Odense,	2 t. 8 c.
---------	-----------

Sulphur—

Antwerp,	5 t. 10 c.
Christiania,	70
Sannesund,	220 1
Stockholm,	15

Tallow—

Hamburg,	56 lbs.
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Tar—

Arendal,	2 t. 10 c.
Hamburg,	2

Yarnish—

Hamburg,	18 lbs.
Genoa,	2 c.

White Lead—

Oporto,	11 t. 19 c.
Copenhagen,	17

GOOLE.

Week ending November 20th.

Alkali—	
Rotterdam,	1 ck.
Benzol—	
Boulogne,	121 cks.
Hamburg,	48
Rotterdam,	120
Chemicals (otherwise undescribed)	
Ghent,	2 cks.
Hamburg,	21
Coal Products (otherwise undes.)—	
Antwerp,	1 ck.
Boulogne,	29
Ghent,	4 2 cs.
Hamburg,	13 2
Rotterdam,	231 2
Colours—	
Boulogne,	1 ck. 2 cs. 10 pkgs.
Ghent,	3 1 1
Rotterdam,	1
Dyestuffs (otherwise undescribed)	
Hamburg,	40 cks.
Manure—	
Bruges,	104 bgs.
Ghent,	478
Ostend,	200
Pitch—	
Dunkirk,	250 t.
Antwerp,	314

GRIMSBY.

Week ending November 23rd.

Chemicals (otherwise undescribed)	
Hamburg,	2 cks.
Malmo,	1
Coal Products (otherwise undes.)—	
Antwerp,	11 cks.
Dieppe,	166 11 pkgs.
Hamburg,	1 cs.
Colours—	
Dieppe,	1 cs.
Rotterdam,	9 cks.
Dyestuffs (otherwise undescribed)	
Dieppe,	1 ck. 1 cs.
Manure—	
Dieppe,	10 t.

PRICES CURRENT.

WEDNESDAY, DEC. 4th

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.B. at maker's works, or at usual ports of shipment in U.K. The price in different localities is

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	& 9/-
Glacial	per cwt.	40/-	
Arsenic S.G., 2000°	per lb.	0	16 0
Fluoric	per lb.	0	0 3½
Muriatic (Tower Salts), 30° Tw. (Cylinder), 30° Tw.	per bottle	0	0 10
Nitric 80° Tw.	per lb.	0	3 0
Nitrous	per lb.	0	0 1½
Oxalic	nett	0	0 1¾
Phosphoric, 1750°	per ton	15	10 0
Picric	per ton	5	10 0
Sulphuric (fuming 50 %)	per ton	3	0 0
.. (monohydrate)	per ton	1	5 0
.. (Pyrites, 168°)	per ton	1	7 6
.. (free from arsenic, 145°)	per ton	3	0 0
Sulphurous (solution) S.G. 1025	per lb.	0	1 0
Tartaric	per lb.	0	1 2
Arsenic, white powdered	nett per ton	15	15 0
Alum (loose lump)	per ton	4	12 6
Alumina Sulphate (pure)	per ton	4	12 6
Alumino-ferric	per lb.	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	per lb.	0	1 3
.. 880=28° B.	per lb.	0	0 3
.. =24° B.	per lb.	0	0 2½
.. Carbonate	nett	0	0 3½
.. Muriate	per ton	22	15 0
.. (sal-ammoniac) 1st & 2nd	per cwt.	39/-	& 37/-
.. Nitrate	per ton	38	10 0
.. Phosphate	per lb.	0	0 6½
.. Sulphate (grey) London	per ton	8	15 0
.. (grey) Hull	per ton	8	13 9
Aniline Oil (pure)	per lb.	0	0 6
Aniline Salt	per lb.	0	0 5½
Antimony	per ton	30	5 0
.. (tartar emetic)	per lb.	0	0 7
.. (golden sulphide)	per lb.	0	0 10
Barium Chloride	per ton	6	7 6
.. Carbonate (native)	per ton	3	5 0
.. Sulphate (native levigated)	per ton	42/6	to 65/-
Bleaching Powder, 35 %	nett	7	0 0
.. Liquor, 7 %	per ton	3	10 0
Bisulphide of Carbon	per lb.	13	5 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	per ton	15/-	to 30/-
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 %	nett per lb.	0	0 7½
Magenta	per lb.	0	3 9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0 11½
Benzol, 90 % nominal	per gallon	0	1 7
.. 50/90	per lb.	0	1 6
Carbolic Acid (crystallised 40°)	per lb.	0	0 6½
.. (crude 60°)	per gallon	0	1 7½
Creosote (ordinary)	per ton	0	0 1½
.. (filtered for Lucigen light)	per ton	0	0 2
Crude Naphtha 30 % @ 120° C.	per ton	0	0 5½
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	per ton	1	15 0
Solvent Naphtha, 90 % at 160°	per gallon	0	1 4
"Lucigen" and "Wells" Oils	per ton	0	0 2½
Copper	per ton	42	17 6
.. Sulphate	per ton	16	5 0
.. Oxide (copper scales)	per ton	41	10 0
Glycerine (crude)	per ton	25	0 0
.. (distilled S.G. 1250°)	per ton	60	0 0
Iodine	nett, per oz.	0	0 7½
Iron Sulphate (copperas)	per ton	1	5 0
.. Sulphide (antimony slag)	per ton	2	0 0
Lead (sheet) for cash	per ton	12	17 6
.. Litharge Flake (ex ship)	per ton	13	15 0
.. Acetate (white)	per ton	22	0 0
.. brown	per ton	15	0 0
.. Carbonate (white lead) pure	per ton	16	0 0
Nitrate	per ton	19	0 0

Lime, Acetate (brown) (ex ship)	per ton	
.. (grey)	per ton	
Magnesium (ribbon and wire)	per oz.	
.. Chloride (ex ship)	per ton	
.. Carbonate	per cwt.	
.. Hydrate	per ton	
.. Sulphate (Epsom Salts)	per ton	
Manganese, Sulphate	per cwt.	
.. Borate	per cwt.	
.. Ore, 70 %	per ton	
Methylated Spirit, 61° O.P.	per gallon	
Naphtha (Wood), Solvent	per ton	
.. Miscible, 60° O.P.	per ton	
Oils:—		
Cotton-seed	per ton	
Linseed	per ton	
Petroleum, American	per gallon	
Stearine	per ton	
Phosphorus (yellow)	per lb.	
.. (red)	per lb.	
Potassium (metal)	per oz.	
.. Bichromate	nett per lb.	
.. Carbonate, 90% (ex ship)	per ton	
.. Chlorate	per lb.	
.. Cyanide, 98%	per ton	
.. Hydrate (Caustic Potash) 90 %	per ton	
.. (Caustic Potash) 75/80 %	per ton	
.. (Caustic Potash) 70/75 %	per ton	
.. Nitrate (refined)	per cwt.	
.. Permanganate	per cwt.	
.. Prussiate Yellow	per lb.	
.. Sulphate, 90 % (ex ship)	per ton	
.. Muriate, 80 % (do.)	per ton	
Silver (metal)	per oz.	
.. Nitrate	per lb.	
Sodium (metal)	per lb.	
.. Carb. (refined Soda-ash) 48 %	nett per ton	
.. (Caustic Soda-ash) 48 %	per ton	
.. (Carb. Soda-ash) 48 %	per ton	
.. (Alkali) 58 %	per ton	
.. (Soda Crystals)	per ton	
.. Acetate (ex-ship)	per ton	
.. Arseniate, 45 %	per lb.	
.. Chlorate	per ton	
.. Borate (Borax)	net, per ton	
.. Bichromate	per lb.	
.. Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	per ton	
.. (74 % Caustic Soda)	per ton	
.. (70 % Caustic Soda)	per ton	
.. (60 % Caustic Soda)	per ton	
.. (60 % Caustic Soda, cream) (f.o.b.)	per ton	
.. Bicarbonate	per ton	
.. Hyposulphite	per ton	
.. Manganate, 30%	per ton	
.. Nitrate (95 %) ex-ship Liverpool	per cwt.	
.. Nitrite, 98 %	per ton	
.. Phosphate	per ton	
.. Silicate (glass)	per ton	
.. (liquid, 100° Tw.)	per cwt.	
.. Stannate, 40 %	per cwt.	
.. Sulphate (Salt-cake)	per ton	
.. (Glauber's Salts)	per ton	
.. Sulphide	per ton	
.. Sulphite	per ton	
Strontium Hydrate, 100%	per lb.	
Sulphocyanide Ammonium, 95 %	per lb.	
.. Barium, 95 %	per lb.	
.. Potassium	per lb.	
Sulphur (Flowers)	per ton	
.. (Roll Brimstone)	per ton	
.. Brimstone: Best Quality	per ton	
Superphosphate of Lime (26%)	per ton	
Tallow	per lb.	
Tin Crystals	per lb.	
.. English Ingots	per ton	
Zinc (Spelter)	per ton	
.. Chloride (solution, 100° Tw.)	per ton	

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ANNUAL SPECIAL ISSUE, 1896.

ual Double New Year Number of the **CHEMICAL TRADE**, to be issued on January 18th, 1896, will contain a number of technical articles, in addition to the other special features of the issue. Advertisers are requested to consult our advertising agent for further particulars.

MEMBERS and others will oblige by ordering extra copies as possible,

ESPECIALLY for the CONTINENT and ABROAD.

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Advertisements, Announcements in the Directory Columns, and all Advertisements not prepaid, are charged at the Tariff rates which will be forwarded on request.

Advertisements intended for insertion in the current week's issue should be sent to the office by Thursday morning at the latest.

AIR POLLUTION AT NEWTON HEATH.

TO all accounts the chemical manufacturers of Newton Heath will have to bestir themselves soon, if they intend to protect themselves against the onslaught we understand the Newton and District Sanitary Association is preparing to make. As far as we know, however, they may be content to let matters drift, instead of spending their time and energies in preparing to fight something that they consider too insignificant to be fought.

We are not going to try to prove that the purity of the atmosphere at Newton Heath is all that can be desired, nor are we likely to attempt to "cover" any polluter who ought to be treating his gaseous emanations more efficiently. On the contrary we should only be too glad to hear that a feasible plan had been devised whereby the atmosphere in the neighbourhood of Miles Platting and Newton would be permanently benefited, but our main object is to see that the chemical industry is not saddled with more than a just share of the blame. Wherever there is room for improvement, let it be made, but we can see no justice in jumping to the conclusion that, because there are chemical works, they can or ought to be made responsible for all the evils and inconveniences attendant upon life in such a thickly-populated and, begging the ratepayers' pardon, dirty district.

The members of the Newton and District Sanitary Association are doubtless animated by worthy aspirations, and they show some originality in their procedure by distributing books in which the inhabitants can record from day to day their olfactory experiences. All the same, they should remember that, alarming as the testimony which they expect to collect from these books may be, it does not follow that chemical works alone have been to blame.

No matter how active the Association is, and though their newly-formed Committee prove to be the most vigilant of Vigilance Committees, they will have to bring forward something more substantial than a mere category of complaints before they can make a case.

Already, we understand, the Committee has been presented with a "long and useful report," a copy of which we have not yet had an opportunity of perusing, though we entertain hopes of doing so in the future.

Till we have so done we are not in a position to speak as to its alleged utility, but, judging from the nature of similar reports prepared on much the same lines, we think we can give the Association a timely and veritably friendly hint.

There is at present an extensive system of inspection enforced under the Alkali, etc., Works Act, which has so far done more than all the hundred and one sanitary or what-not associations that exist, to prevent the pollution of the air. The inspectors under this Act are men of education and special experience. For years they have been studying how

best to minimise the nuisance that attends certain chemical manufacturing operations, and the last report of the Chief Alkali Inspector shows that their labours in this direction have proved by no means fruitless.

In preparing to face the solution of the difficult task the Newton and District Sanitary Association has undertaken, we would suggest that they thoroughly acquaint themselves with all that these inspectors can teach them by their reports, and possibly personal opinions. With all respect to the Vigilance Committee of this Association, we hold that their watchfulness will be wasted unless they are guided by the experience and counsel of these inspectors, whose sole business it is to enforce and facilitate the proper execution of the existing laws.

And there is just one other point which if neglected will militate seriously against the work of the Association, namely, that the value of the evidence culled from the recording books will largely depend upon their being able to present a parallel record of where and how the entries in those books were made. It is easy to conceive that many of the complaints might be traceable to other sources than the chemical works. It has recently been shown that in some school-rooms the pollution of the air has run as high as to 72 and 93 parts of carbon dioxide per 10,000. The partial poisoning and its after effects in such cases would doubtless be laid to the charge of chemical works if any such chanced to exist in the vicinity, and we have had occasion to enter dwellings in Newton Heath, in comparison with which the atmosphere of a chemical works was positively refreshing. It is in these and similar points that the difficulties that beset this Association will be found, and it is because we, too, would welcome any sound method of amelioration that we have indicated a few of the obstacles that the Association will encounter. Unless they are prepared to honestly endeavour to cope with them, they will only hinder, instead of furthering, the aims they profess.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

THE second meeting of this section was held at the rooms of the Chemical Club, Victoria Hotel, on Friday, December 6th.

The Chairman (Mr. George E. Davis), in introducing the President of the Society (Mr. Thomas Tyrer), said it was with great pleasure that he welcomed their president, who was making a point of visiting all the sections, and referred to the good work done by Mr. Tyrer in his association with the Journal of the Society.

Mr. Tyrer said he thought the wishes and hopes of the founders of the Society had not been disappointed. Its growth had been periodic, and with it had been associated a great variety of mind, ability, and talent. Its business, he was glad to say, was conducted with impartiality, and without undue preference being shown to any section. Dealing with the question of technical education, Mr. Tyrer criticised adversely the existing state of affairs. It was not fine buildings, he said, that were wanted, but fine equipments. There was plenty of money, he thought, in every locality to satisfy the needs of that locality with regard to technical education. In his recent visit to America, he visited six technical institutions, and he did not think the equal of any one of them could be found in England. Their equipments were almost perfect. In describing his visit to the well-known Bethlehem Iron Works, in the Lehigh Valley, he gave a description of the laboratory and its equipment. In illustration of the excellence of the latter he read a signed statement of the number of analyses made in a week, as follows:—Carbon (by combustion), 60; carbon (by colour test), 976; manganese, 192; phosphorus, 210; silicon, 289; copper, 96; nickel, 40; which results, in conjunction with several other determinations not enumerated, brought the total to 2,441 estimations per week, all of which were done by a staff of 18, which included the lad that collected the samples, and any labour employed in drilling, crushing and preparing the samples. He also described several chemical and pharmaceutical manufacturing concerns that he had

had an opportunity of visiting. In regard to technical education he compared with America—a subject to which the president devoted a large part of his address—he laid great stress on the fact that there hardly a professor in the States who was not also either visiting or consulting chemist to a works. This connection with the technologic well as the strictly professorial side of the subjects they taught, marked effect upon their students.

Dr. Lewkowitsch then read a short contribution to the "Analytical Fats." He referred to the fallibility of text-book instructions for estimation of unsaponifiable matters, instancing his remarks on analytical examples of the varying results obtained with different solvents. He also dealt with the examination of wool fats—particularly the neutral portion—for which he suggested the use of wool wax. So far he had only got a limited amount of data concerning the constitution of this fat or wax, and he pointed out what a rich field for research lay open in this direction.

After the usual votes of thanks the meeting, which had been a long one, terminated.

LIVERPOOL SECTION.

This section held its second meeting of the session at the Univ. College, on Wednesday, last week, the president of the parent society (Mr. Thomas Tyrer) making this the occasion of his official visit to the section. The paper of the evening was read by Dr. G. H. Bailey, "The Volatilisation of Salts during Evaporation." It was pointed out that during evaporation of extremely dilute solutions of salts and alkalies, quantities of the salts, albeit small, pass off with the vapour. The amount of loss increases with the concentration of the solution, and varies also with the nature of the salt employed. A discussion followed the reading of the paper, confined mainly to a consideration of physical conditions likely to have an influence on the products of such phenomena, which are undoubtedly of more extensive application than has hitherto been expected. Several shorter communications of considerable interest were brought before the society. Dr. Can Brown illustrated the illuminating powers of acetylene, and pointed out various difficulties in the way of using the gas as an illuminating agent, and Dr. Kohn showed an experiment illustrating some of the uses of the illuminating power of hydrocarbon vapours. Mr. Douglas H. exhibited a highly interesting series of transparent silver films, and Mr. H. P. Thompson a number of unique specimens of embossed silver. The next meeting of the society will be held on January 8th, when Mr. J. T. Conway will read a paper on "Some New Methods of Preparing Cyanides."

Reports of Companies.

NEW TAMARUGAL NITRATE COMPANY, LIMITED.

The report of the directors to July 31st last states that the net profit, including the sum of £1,117, brought forward from last year, amounted to £47,430, and, after providing for the debenture service fund, deducting the dividend on the eight per cent. preference shares for half year, paid in February last, there remains a balance of £41,313. All realisable assets in Chili at July 31st have been converted at 12d. against 12d., which was the rate last year. The difference in exchange shows a gain of £12,416. 16s. 3d., which has been credited to the profit and loss account. The company's property has been maintained in order. A tramway has been constructed at La Palma for the carriage of caliche, and expenditure has also been incurred at La Patria in connection with the machinery and labour-saving appliances. These have been carried out with the object of reducing the cost of production. Of this expenditure £2,004 has been written off in the year under review, and the balance of about £4,000 has been carried forward. The nitrate grounds purchased from the Chilean Government, mentioned in the directors' last report, upon which work has recently commenced, are reported to be satisfactory, and the directors have every reason to be satisfied with the purchases. Under the conditions of the Government decree a sum of £8,676 was paid at the time of purchase, and a further payment of £13,014 was made on October 15th of this year, leaving a balance of £21,690 to be paid on October 15th, 1896. The final payment may possibly be arranged by annual payments over a series of years, so as not to press too heavily on the shareholders in any one year. The depreciation fund, amounting to £6,179, has been applied towards the cost of the new grounds. Up to the end of the year 1894 prices for nitrate continued good; but early in 1895 prices began to fall owing to excessive production, and the fall continued during the year. Negotiations for a combination of producers with the object of restricting production and regulating exports have been carried on for some time; but no agreement has yet arrived at.

CASSEL GOLD EXTRACTING COMPANY, LIMITED.

directors' report that for the year ended September 30th last the net loss account, after providing for the usual writing down of the Arthur-Forrest patents by £14,550., and for depreciation of the machinery and plant, shows a credit balance of £17,275., which the directors recommend a dividend of 5 per cent. on the capital, free of income-tax, payable on December 23rd, 1895, to the shareholders on the books of the company on December 5th. This amounts to £11,375., and the directors recommend that £5,000 be transferred to suspense shares account, and that the balance of £900. be carried forward to next year.

SANTA ELENA NITRATE COMPANY, LIMITED.

directors in their report for the period ending June 30th last state that the accounts show a net profit of £1,891., after transferring the sum of £1,000. to exchange suspense account. This gives an undivided profit of £4,700., which the directors propose to distribute. The directors regret that the present condition of the market and the uncertainty as to the future make it impossible for them to recommend the payment of a dividend. The manufacture of nitrate at the company's oficina has been suspended for the present, but the directors hope that the differences existing amongst producers of nitrate may shortly be arranged, and prices raised to a point which will enable the company to produce at a fair profit.

LOW TEMPERATURE RESEARCHES.

By H. GRIME.

(Continued from page 353.)

The table below is given the temperatures at which a number of substances, which under ordinary conditions are gaseous, liquefy and solidify. These temperatures have been determined by

- 1. The specific heat method, using silver or platinum;
- 2. The hydrogen thermometer;
- 3. The thermo-electric couple; or
- 4. The change in the specific electrical resistance of pure metals.

Olszewski prefers the hydrogen thermometer, which he considers to be the most satisfactory for measuring temperatures even below the critical temperature of hydrogen. Dewar, however, seems to prefer the resistance thermometer,—at any rate, for some purposes. The method of determining temperatures was used by Callendar, and recently by Callendar and Griffiths in some of their researches. The electrical resistance of the platinum at 100°C. and $R_0 = 100\Omega$, then a change of temperature which produces a change of

resistance equal to $\frac{R_{100}-R_0}{100}$ is called one degree of platinum temperature.

A given temperature is not necessarily represented by the same number on the platinum thermometer and on the mercury or hydrogen thermometer. For example, on the standard platinum thermometer used by Dewar and Fleming, the absolute zero is -283° platinum degrees. But by means of experiment a sufficient number of data can be obtained to furnish a table whereby the temperature on the platinum thermometer scale may be expressed approximately in terms of the others. A description of Dewar's platinum thermometer may be of some interest. It consists essentially of a pure annealed platinum wire, with connecting conductors made partly of sheet copper, partly of platinum, and partly of stranded copper wire. A small copper tube, 3.2 centimetres long and 0.64 centimetres bore, is wrapped round with two half-cylinders of copper. One of these half-cylinders is soldered to the tube, while the other is separated from both the central tube and its fellow half-cylinder by a slip of mica. The wires of platinum are fastened one to each half-cylinder. A thin sheet of mica is wrapped round the compound cylinder, and over this is wound the silk-covered pure annealed platinum wire, about a metre long. Each end of the wire is attached to one of the half-cylinders. Thus the current from the small battery used passes from a thick copper wire to a platinum wire, then along one of the copper half-cylinders, whence it passes through the platinum wire to the other half-cylinder. Thence it passes along a platinum wire to a copper wire, and so back to the battery. The platinum wires are interposed, because the specific thermal resistance of platinum is greater than that of copper. It is stated that with this thermometer a change of $\frac{1}{10}$ of a degree in the temperature can be easily distinguished in the neighbourhood of -196.7° , viz., the boiling point of liquid oxygen in platinum temperature. Even between 0° and 100° , though the same degree of accuracy is not obtainable, it is possible to determine the temperature within one-tenth of a degree.

Olszewski liquefies oxygen under a pressure of 100 atmospheres in a steel (or sometimes a glass) cylinder, cooled below the critical temperature of oxygen by a bath of liquid ethylene boiling under reduced pressure. The ethylene itself is liquefied by means of pressure, aided by the low temperature of a freezing mixture of carbon-dioxide-snow and ether. The liquid oxygen obtained is preserved in vessels protected by double or triple air-jackets. With a few additions, Olszewski used the same apparatus in his attempts to liquefy hydrogen. Dewar's apparatus resembles Pictet's and Olszewski's in being based upon the principle of Faraday's U-tube. It differs, however, in details. Oxygen under pressure is conveyed along a copper worm, which passes—first, through a freezing mixture of carbon dioxide and ether, and then through ethylene boiling under reduced pressure. In this particular apparatus the ethylene bath is protected from external heat by its own vapour. You will notice that both Olszewski and Dewar use liquid ethylene as the intermediary between liquid carbon dioxide and liquid oxygen.

(To be continued.)

GAS.	CRIT. TEMP.	CRIT. PRESS.	B. PT.	FR. PT.	FR. PRESS.	DENS. AT B. PT.	COLOUR OF LIQUID.	REMARKS.
Hydrogen H_2	Below -220°	20 atm.	—	—	—	—	—	—
Nitrogen N_2	-146°	35 "	-194.4°	-214°	60 m.m. Hg.	0.885	Colourless.	—
Oxygen O_2	-118.8°	50.8 "	-181.4°	—	—	1.124	Bluish, absorbs light powerfully.	—
Ammonia Am	-121°	50.6 "	-187°	-189.6°	?	1.5	Colourless.	—
Carbon Dioxide CO_2	-140°	39 "	-191.4°	—	—	—	Nearly colourless.	—
Carbon Monoxide CO	-139.5°	35.5 "	-190°	-207°	100 m.m.	—	Colourless.	—
Nitric Oxide NO	-93.5°	71.2 "	-153.6°	-167°	138 m.m.	—	—	—
Methane CH_4	-81.8°	54.9 "	-164°	-185.8°	80 m.m.	0.415	Colourless.	—
Ozone O_3	—	—	-106°	—	—	—	Dark blue, easily exploding.	—
Acetylene C_2H_2	$+34^\circ$	50.2 "	-93°	at -151°	—	—	Colourless.	—
Ethylene C_2H_4	$+97^\circ$	44 "	-45°	still liquid	—	—	Colourless.	—
Nitrous Oxide N_2O	$+36.4^\circ$	37.1 "	-87.9°	-115°	760 m.m.	0.939*	Colourless.	* At 0°
Dioxide CO_2	$+30.92^\circ$	75 "	-78.2°	—	—	0.9951*	Colourless.	* At -10°
Sulphur Dioxide SO_2	$+155^\circ$	78.9 "	-8°	—	—	1.4911*	Colourless.	* At -20.5°
Hydrocyanic Acid C_2H_4	$+10^\circ$	51.7 "	-102.5°	-169°	—	—	Colourless.	—
Chlorine Cl_2	—	—	-34°	-102°	—	1.3	Yellow-orange.	—
Hydrochloric Acid HCl	—	—	—	-116°	—	abt. 1.27	Colourless.	—
Hydrofluoric Acid HF	—	—	$+19.4^\circ$	-92.3°	—	—	Colourless.	—
Hydrobromic Acid HBr	—	—	-85°	-133°	—	—	Colourless.	—
Hydroiodic Acid HI	—	—	-55°	-119°	—	—	Colourless.	—
Phosphoric Acid H_3PO_4	—	—	-18°	-91.5°	—	—	Colourless.	—
Selenic Acid H_2SeO_4	$+138^\circ$	—	-41°	-68°	—	—	Colourless.	—
Tetrafluoride SiF_4	—	—	—	abt. -102°	—	—	—	Does not melt.
.. .. .	?	—	—	—	—	—	—	—

THE SPECIAL RULES FOR DANGEROUS OCCUPATIONS.

I.—WHITE LEAD WORKS.

IN a recent issue we referred to the appointment of two Parliamentary Committees to inquire into the conditions under which employes labour in industries that are thought to be dangerous to health. We have already expressed our opinion as to the use of further inquiries, so that comment upon this point is needless. For some time, however, we have been collecting information about the practicability of the rules that are now in force, and the present moment appears to afford a most fitting opportunity for utilising the same. We therefore propose to publish a copy of the special rules for the principal industries related to chemistry, and to add thereto the criticisms that have been received or that we feel justified in making after having considered the general bearings of what we have gathered. In this way we shall record for reference the conditions of the moment, and also, we trust, afford some guidance to those who are anxious to further investigate dangerous trades with a view to adding to or modifying the present regulations.

This week we deal with white lead works. There is danger in this industry when the regulations are not followed out by the employes, but as a rule they act up to their instructions. It is absolutely necessary that the 9th section of the Act of 1891 be made as public as possible. It renders the employe as well as the employer liable to a fine if any of the rules are wilfully not complied with. There is room, however, for great improvement in the methods of enforcing this section, as it has proved troublesome in certain cases to make practical use of the power thus given to the employer. Fortunately the threat is so far generally enough. We would here impress upon those intending to further improve our existing legislation that, while acting wisely in perfecting all preventive measures, it will be unwise to prohibit the employment of women in all departments of white lead works, where they would come in contact with white lead.

We consider this would be a great hardship to the women, who at present earn a good livelihood by working in lead factories, and it would also tend to drive this trade to the Continent, where cheap labour can be obtained, without any irksome regulations.

The following are the special rules now in force for the management of white lead works. In the main the rules also apply to the correlated processes of lead smelting and working, and the preparation of red lead, litharge, &c. :—

DUTIES OF OCCUPIERS.

1. They shall provide respirators, overall suits, and head coverings, to be worn by the persons employed in the departments enumerated below, under "Duties of Persons Employed."
2. They shall take care that every stack is fitted with a standpipe, or movable hose, and an adequate supply of water, distributed by a very fine rose or watering can, for damping the white bed before stripping.
3. They shall see that no female shall be employed without a certificate of fitness from a medical man, to be obtained within one week from the date of employment.
4. They shall see that no person shall be re-employed after absence through illness without a certificate from a medical man.
5. They shall provide overalls for females in all blue beds where the returns are used without being re-melted, and overalls and head coverings for females in all other parts of the works except the casting shops.
6. That the wearing of shoes and stockings be optional, but that no females shall be permitted to wear the same shoes and stockings in the works as they wear in going to and from the place of employment.
7. They shall provide sufficient bath accommodation for all men and women employed.
8. They shall provide dressing-rooms, a dining-room, lavatories, and a cloak-room, in which the ordinary clothes of all workers are to be kept apart from their working clothes.
9. They shall arrange for a weekly visit by a doctor, who shall examine every worker individually, and who shall enter the result of each examination in the proper register.
10. They shall cause such a register to be kept, and shall have entered in it the date when each worker commences and leaves employment, and the date when each worker takes a bath.
11. They shall cause every case of illness from lead poisoning to be reported both to H.M. Inspector of Factories for the district and to the Certifying Surgeon.
12. They shall cause each man or woman to take a bath at least once a week, and to wash in the lavatory before bathing.
13. They shall deliver to the persons employed the articles of clothing which are required to be worn, and they shall see that they are put on. At the end of every day's work they shall collect and have thoroughly washed all those which have been used in the stoves, and those which have been used in other departments once a week.

14. They shall see that the general lavatory is thoroughly and supplied with clean towels after every meal.

15. They shall have the dressing-rooms, baths, and w.c.'s and cleansed daily.

16. They shall not allow the workers to leave any cloth dining-room, or their ordinary clothes in any work-room.

17. They shall see that the supply of hot and cold water brushes, and towels is sufficient in the bath-room and lavatory.

18. They shall see that there are kept in close proximity workers in each department washing conveniences and a supply of approved sanitary drink, and they shall cause the take it.

19. They shall set apart, and cause to be entered in, affixed in each department, a period of at least ten minutes, in to the regular meal-times, for washing immediately before es time, and also before the end of the day's work; and they that it is observed.

20. They shall see that at the doctor's weekly visit th entries are on each occasion made in the register.

21. Upon any person complaining of being unwell, they a the least possible delay give an order upon the doctor; and i person desiring medicine, they shall give a dose of the p medicine kept at the works.

22. Managers, &c., shall report immediately to the firm any which comes under their notice of any worker neglecting th tions hereinafter mentioned.

23. They shall examine all persons going out of the works, i not allow them to leave unless they are properly cleansed from

DUTIES OF PERSONS EMPLOYED.

24. Each man or woman before commencing work in a following departments shall wear as follows, having received t from the person in charge :—

Blue-beds Every woman to wear an overs all blue-beds where the returns are used witho remelted.

White-bed One overall suit and head e Women inside the white-beds to wear respirators i the "Carriers" not.

Washing and Crushing .. One overall suit and head e "Roller" women to wear respirators also.

Grinding One overall suit and head cov

Setting stoves One overall suit and head cov

Drawing stoves One overall suit, head coveri respirator.

Paint mixing One overall suit and respirator.

25. Each man or woman working at any white-bed, or in a drawing stoves, or in the washing and crushing, grinding, i mixing departments, before going to breakfast, dinner, or h before entering the dining-room for any purpose whatever, mus Put off the overall suit &c., and give the same to the p charge, or leave it in the clothes room.

Brush every particle of lead dust from his or her clothes. Thoroughly wash face and hands in the lavatory, and ticular that no dust remain underneath the finger na

If not wearing stockings and boots, thoroughly wash the

26. Each man or woman must bathe at least once a week, at wash in the lavatory before bathing.

27. Each man or woman must receive and drink, at such t may be stated in a notice affixed in the factory, such sanitary d may be prescribed in such notice.

28. Every white-bed must be adequately watered on remova boards, and all trays of corrosions shall be well saturated wit before passing through the rollers.

29. No person shall smoke or use tobacco in any workplace, o or take food in any part of the works, except in the dining roo

30. No person may seek employment under an assumed na under any false pretence.

Respirators A good respirator is a cambric b or without a thin flexible wire made to fit over the n

Sanitary drink suggested { Sulphate of Magnesia .. 3 00
Water 1 25
Essence of Lemon, sufficient to

Prescribed medicine.

The following departments to be specially ventilated :—(1.) V and crushing. (2.) Grinding in water. (3.) Paint (grinding (4.) Drawing stoves.

In certain works the following additional self-imposed reg are enforced :—

1. Anyone feeling unwell must report themselves to the fi who will see that they are attended to; if taken so unwell a unable to come to work, word must be sent at once to the fir will pay the cost of a telegram.

A doctor will attend the works twice a week, and anyone the effects of the lead will have their work changed, or be sent until recovered. The firm will provide medical attendance at charge.

Any person who has been off work through illness will be sent again until passed by the doctor.

Certain drinks are provided by the firm, and should always be preferred to water. At 6-30 a.m. a free breakfast is provided for women only. Acidulated lemonade may be had at any time, and is taken as follows:—7-50 a.m., 12-50 p.m., 5-30 p.m. Anyone who is supplied with a respirator and not wearing it will be dismissed.

Anyone breaking any of the above rules and any of the Special Order under the Factory Act, will be fined 1s. for the first offence, 2s. for the second offence, and for the third offence will be dismissed.

COMMENTS.

Are the present rules both official and non-official. As a whole they appear to be the most feasible set that has been formulated by the Government, which may largely be accounted for by the fact that almost everywhere the Government adopted the rules which the manufacturers had of necessity framed for their own protection, and to ensure efficient and regular conduct of a difficult process.

As matters stand there are some points that present difficulties, and we may here mention that our columns are open to discussion of these and subsequent rules, both from the employer's, the inspector's, and the worker's point of view, for without the co-operation of all three nothing satisfactory will ever be done.

1.—This can only be enforced when the person who has been sent to the hospital is attended by the firm's medical officer. If, as frequently happens, the man or woman who is suffering does not wish the firm to be informed of his illness in case of losing employment, they will go to some other doctor, making any excuse for their absence when ready to return.

The only way to render this rule really effective is to make it compulsory for all doctors to report cases of lead poisoning in the works, so that certain infectious diseases are reported. Experience shows that in almost every fatal case there have been previous attacks of which the firm were quite ignorant. In any serious case the person should be removed from the works. Hence the desire to conceal the fact. The present drawn is useless.

2.—Washing conveniences in close proximity to the workers are necessary. What is the use of washing when the very next thing the hands will be as thickly coated as before? In the opinion of the author, frequent washing, especially in warm water, is as bad as, if not worse than, no washing at all, since the pores of the skin are

closed. The only drink found in use was simply water acidulated with acid and sweetened with sugar. This makes a most palatable drink, and one that the workers take freely, because they like it. No other drink was made to this drink by the Home Office Committee, yet it is suggested one which they consider better. It is so intensely palatable that it is evident the Committee could not have tasted this mixture; they would never have suggested it. The drink must be made, or it will never be taken.

3.—In concluding, let it be said that the question of substitutes is one point which has been definitely decided. We emphasize it because such a number of ignorant but humane people indulge haphazardly in endless and inane suggestions on this very question, as if therein lay the solution of all the troubles attending white lead manufacture. We cannot do better than quote the exact words of the Government Committee of Inquiry—words embodied in their report after hearing and considering pages of evidence for and against:—"With regard to these so-called substitutes, the Committee have invariably found that on closer inquiry of competent to judge and unprejudiced on either side, the question was in some particulars inferior; and they have reached the conclusion that there is at present no substitute that can take the place of carbonate of lead made by the old Dutch process."

PULP Via THE CANAL.—Further cargoes of wood pulp continue to arrive from the Baltic. The *Frigga* recently brought 500 tons of pulp, the *Courier* 600 tons from Sannesund, the *Sculda* 300 tons from Drammen, the *Starlight* 720 tons from Gefle, the *Panther* 1,000 tons from Christiania and Drammen, the *Faerdrelander*, 1,800 tons from Skien, and the *Bengal* 1,825 tons from Finland. The steamers (1,001 tons register) and *W. Harkness* (736 tons) are on their way with mixed cargoes of timber and pulp from Finland, and the *St. John* (1,001 tons) with a similar cargo from Gefle. Full cargoes of wood pulp have been fixed by the *Courier* (362 tons), from Sannesund; the *St. John* (1,001 tons), from Drammen; *Dalbetie* (849 tons), from Gefle; the *St. John* (1,001 tons), from Christiania; and *Vanadis* from Christiania; the *St. John* (1,001 tons), from Skien; *Rose* (533 tons), from Halmstadt, and the *St. John* (1,001 tons), from Halmstadt.

Legal Intelligence.

SUPREME COURT OF JUDICATURE.

COURT OF APPEAL.

(Before Lords Justices Lindley, A. L. Smith, and Rigby.)

THE BADISCHE ANILIN UND SODA FABRIK v. HENRY JOHNSON AND CO. AND THE BASLE CHEMICAL WORKS, BINDSCHEDLER.

This was an *ex parte* motion on behalf of the plaintiffs for leave to issue a concurrent writ in the action, and to serve notice thereof on the second defendants (the Basle, & Co., Company), who are manufacturing chemists at Basle, out of the jurisdiction of the Court—viz., at Basle. The case is one of considerable importance and interest to owners of English patents, which, it was stated by counsel, are constantly infringed by manufacturers who carry on business in countries, such as Switzerland and Holland, in which there is no patent law, selling articles made in infringement of English patents in small quantities to retail dealers in England. When such a retail dealer is threatened with proceedings by the patentee he at once submits to an injunction, but it is extremely difficult to detect all these small transactions, and, if the patentee cannot sue the foreign manufacturer in this country, he would be practically without remedy. The plaintiffs in this action are the owners of a valuable English patent (No. 9,858 of 1885) for dyes. By their writ in the action they claim an injunction restraining the defendants, their servants and agents, from importing into England and from manufacturing, selling, supplying, and using in England dyes manufactured according to the patent, or in any manner only colourably differing from the same, and generally from infringing the plaintiffs' rights under the patent. The plaintiffs also claim damages and other consequential relief. According to the affidavits on behalf of the plaintiffs, the Basle Company manufacture at their works at Basle a dye which is an infringement of the plaintiffs' patent, the dye being known in the trade as "Yellow T." On June 7, 1895, the defendants, Henry Johnson and Co., who are dyers in London, sent to the Basle Company the following order:—"Please send us by post immediately 5lb. Yellow T for wool 109." On June 11 the Basle Company replied:—"In reply to your postcard of 7th inst., we are sending you enclosed invoice for the 5lb. Yellow for wool you ordered, asking you kindly to credit us for the amount, 16s. 6d. In order to induce you to further orders, we are willing to reduce our price for this product (as mentioned), and we hope we shall be favoured with your more important commands." The enclosed invoice was addressed to Henry Johnson and Co., and described the goods as "bought of" the Basle Company, and it stated that the package was "sent to Messrs. Niebelgall and Goth, Basle, to be held by them at your disposal." Johnson and Co. were served with the writ, and stated that they did not intend to enter an appearance, but were willing to submit to a perpetual injunction. Rule 1 of Order XI. of the Rules of Court of 1883 provides:—"Service out of the jurisdiction of a writ of summons, or notice of a writ of summons, may be allowed by the Court or a Judge whenever (*inter alia*) (f) any injunction is sought as to anything to be done within the jurisdiction, or any nuisance within the jurisdiction is sought to be prevented or removed, whether damages are or are not also sought in respect thereof." Mr. Justice North, sitting in Chambers, refused the application, but the point now relied on was not strongly urged before him. The plaintiffs appealed.

Lord Justice Lindley said that no doubt the case was one of extreme importance, and he thought that a *prima facie* case had been made out within Rule 1 (f) for granting the leave asked. It was clear that the plaintiffs were *bona fide* seeking an injunction to prevent the sale of the article in England. The invoice contained a clause which *prima facie* the defendants had no right to insert in it, viz., the clause which stated that the package had been sent to Messrs. Niebelgall and Goth. The defendants had not been requested to do that, and *prima facie* Messrs. Niebelgall and Goth were the agents of the vendors. If so, this was a colourable evasion. The application was made *ex parte*, and if the Basle Company should come hereafter and ask that the order giving leave to serve them might be discharged nothing which the Court had now said would prejudice them.

Lord Justice A. L. Smith and Lord Justice Rigby concurred.

HIGH COURT OF JUSTICE.

QUEEN'S BENCH DIVISION.

(Before the Lord Chief Justice of England and a Special Jury.)

THE BERKFELD FILTER COMPANY (LIMITED) v. THE RURAL DISTRICT COUNCIL OF ST. NEOTS.

In this action the plaintiff company, who carry on business at 121, Oxford-street, W., sued the defendants to recover a sum of £75., the balance of an account for the price of goods sold and delivered by the plaintiffs to the defendants in 1893. The defendants pleaded that

they were the successors of the St. Neots Rural Sanitary Authority under the Local Government Act of 1894; that the goods in question were certain pumps which the plaintiffs represented were fit for supplying water to the inhabitants of their district. The pumps were accordingly supplied in May, 1893, but it was alleged they were found insufficient and not as represented by the plaintiffs. The defendants counterclaimed for £75. The plaintiffs in their reply traversed the several defences raised by the defendants, and denied any liability on the counterclaim. They denied that they in any way warranted the pumps. If the pumps had got out of order they alleged it was due to the defendants' own default.

Mr. Pike, Q.C., and Mr. Hodges represented the plaintiffs; and Mr. Cock, Q.C., and Mr. C. C. Scott were for the defendants.

The case was of little general interest, though it occupied the whole of a day's sitting. Shortly after its resumption on the following day it was agreed between the parties that a juror should be withdrawn and a *stet processus* entered, each party to pay their own costs, and so the case ended.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Improvements in Production of Basic Carbonate of Lead. O. Hamilton. 22,460. November 25.
Sewage Treating Appliances. R. H. Reeves. 22,502. November 25.
Vulcanising Rubber. O. M. C. Heyl. 22,511. November 25.
Improvements in Extracting Sludge from Sewage Tanks. E. W. Ives. 22,545. November 26.
Water and Grease Proof Paper. A. Zimmermann. 22,625. November 26.
Improvements in the Manufacture of Explosives for Use in Coal Mines, etc. W. J. Orsman. 22,605. November 27.
Improved Apparatus for Drying Superphosphates, etc. J. Y. Johnson. 22,713. November 27.
Improved Process of Tanning Hides. C. Knees and D. W. Alexander. 22,714. November 27.
Improvements in Concentration of Sulphuric Acid. R. England. 22,715. November 27.
Improved Process of Producing Metallic Zinc and Copper from Ore by Electrolysis and Obtaining Oxygen Gas. C. A. Burghardt and G. Rigg. 22,732. November 28.
Improvements in Wool Washing Machinery. W. E. Robinson and A. D. Stuart. 22,741. November 28.
Improved Process and Apparatus for Decomposing Ammonium Chloride, and Obtaining Ammonia, Hydrochloric Acid, and Chlorine. F. Balci. 22,774. November 28.
Improvements in Filtering, and in Filtering Agents for, Sewage and other Waste Waters. F. P. Candy. 22,785. November 28.
Improved Stopper for Carboys and other Vessels. A. J. Boulit. 22,789. November 28.
Extracting Sugar from its Solutions. A. Wohl. 22,859. November 29.
Electrolytical Extraction of Copper. F. C. B. Gomes. 22,866. Nov. 29.
Improvements connected with Electric Telegraphs, Organs, Condensers, Deposition of Nickel and Cobalt, Packing Eggs, etc., Coating Eyelets and such Objects, and Making Bleaching Powder. J. Swinburne. 22,976. November 30.
Improvements in Crushing Mills. W. H. Coward. 22,982. November 30.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

Process and Apparatus for the Separation of Salts from their Solutions. C. Kellner, Hallein, Austria. Eng. Pat. 25,368. Dec. 31, 1894.

Some salts are more soluble in cold water than in hot. The difference between the solubilities of sodium carbonate and salt at a high temperature is taken advantage of (after carbonating the caustic soda formed by the electrolysis of a solution of salt) to separate the carbonate of soda from the brine in which it has been generated. The data from which the patentee works is that 100 parts of water at 36°C. dissolve 59 parts of Na_2CO_3 , but at 100°C. 45 parts only. On the other hand, under similar conditions, the solubility of salt rises slightly, from 36.64 to 39.61. The apparatus consists of a vertical tower, carrying a store tank at the top, with a perforated bottom. Through the perforations wire ropes are inserted, hanging freely in the tower, and reaching nearly to the bottom, which is sloped towards a collecting vessel. In this way a thin layer of the liquid constantly flows down the ropes, being met by an up current of hot fire gases which are introduced at the foot of the tower, escaping just below the level of the store tank at the top. With such an apparatus the separation and concentration of the sodium carbonate, or other salt, is carried on simultaneously. If a caustic solution is being used, the fire gases

also effect the desired carbonation. Any liquid not evaporated is by a sealed pipe into the collecting vessel above mentioned, and returned to the store tank. The crystals are removed through a side opening higher up the sloping bottom.

Improvements in the Manipulation and Treatment of Blast Furnace Slag and other Slag, and in the Apparatus therefor. T. 8, Quality-court, London. Eng. Pat. 465. Jan. 8, 1895.

Hitherto the costliness of disintegrating slag has stood in the way of its adoption for more extended use in the manufacture of hydraulic mortars, bricks, road metal, and building blocks, etc. The apparatus suggested by the patentee, the molten slag is run in an inverted cone, placed in a cup-shaped receiver, so arranged to leave a number of small spaces between the bottom edge of the receiver and the edge of the cone, through which the slag falls curved deflecting plates, swivelled at their upper edges so that they can be open or closed like an umbrella. These plates the globulated slag falls on to a large similarly shaped cooler through which water circulates, passing on to another water cooled vessel, at the bottom of which is an outlet allowing the slag to fall into a third receiver. The essential feature is the granulation of the slag, the degree of which is regulated by the angle at which the deflecting plates are set. The hardness is controlled by using cold water in the coolers, instant chilling producing brittle material suited for cement making and fine grinding, while slower cooling produces a tougher product, suitable for road metal, etc. In some cases the deflecting plates can be left out to reduce the cost of the apparatus. There is one sectional drawing, showing the elevation of the plates.

Apparatus for Transforming Oxygen into Ozone. M. Otto, 8, 1, Gourdou, Paris. Eng. Pat. 748. Jan. 11, 1895.

The invention relates to an apparatus for transforming oxygen into ozone under the influence of electrical discharge. The apparatus consists of a rectangular wooden box, varnished to protect it from the action of ozone, and insulated by glass feet. In the box there is a number of parallel glass plates, carrying between them sheet aluminium. The plates are drilled with holes to allow the passage of the oxygen and oxygen to be ozonised. Thin strips of asbestos are placed between the end and side edges, keeping the plates about a millimeter apart, preventing the escape of any gas. The chief claims are that the apparatus is not affected by the corrosive ozone which comes into contact with the gas in its passage through the apparatus. The system of the two outer plates longer and broader than the others, and filled all round with cement, makes the whole perfectly gas tight, and the zig-zag course which the arrangement of the holes causes the oxygen to take, ensures the same being uniformly ozonised. There are two drawings.

Improvements in the Utilization of Waste or Spent Acid Pickling Galvanising Works or other Works where Iron is Treated by and in the Treatment (for Recovery or Obtaining of Chlorine) of other Products containing Chlorine. T. Parker, Manor Tottenhall, near Wolverhampton. Eng. Pat. 24,859. Dec. 21, 1894.

The patent provides for the utilisation of waste pickling liquor, whether hydrochloric or sulphuric. In the case of the former acid the liquor is neutralised with scrap iron, preferably in the form of turnings, thereby forming ferrous chloride. The water is then evaporated, the dry ferrous chloride thus obtained (including that originally in the liquor) is transferred to a furnace, and while heated to a dull red heat is exposed to a current of air, either hot or cold. Chlorine is given off, and is made use of in any desirable way. When sulphuric acid has been used for pickling, chloride of calcium, magnesium, or common salt (by preference the former) is added to the neutralised pickling liquor, converting the ferrous sulphate into chloride. If the base of the chloride is calcium, forms an insoluble sulphate it is removed prior to the evaporation of the process being the same as with hydrochloric acid. In the case of calcium chloride from the ammonia-soda process can be used for its chlorine by treating it with ferrous sulphate direct, a convenient source of the latter salt being roasted iron pyrites.

Improvements Relating to the Utilisation of Liquors from Chlorine Roasted Ores or Tailings. H. Brewer, 5, Grünstrasse, Duisburg, Germany. Eng. Pat. 1,348. Jan. 19, 1895.

The object is to recover the salt used in chlorination-roasting, also to avoid the formation of troublesome waste liquor when the liquors from the chlorination-roasted ores, so that the mother solution can be recovered. The process in outline is as follows:—The liquor obtained after lixiviating the chlorination-roasted ores practically consists of sodium sulphate, chlorides of zinc, sodium, sulphate of

er metallic salts such as manganese nickel, cobalt, and silver. liquor calcium chloride, obtained as a bye-product in the manufacture of ammonia-soda, is added in proportion to the sulphuric acid thereby converting all the metals into chlorides and precipitating calcium sulphate, which can be utilised. The silver is then added in the usual way, and the iron removed by means of carbonate (derived from causticising mud) blowing with necessary to convert any ferrous salt to the ferric state. The clear separated from the precipitated oxide contains the chlorine of salt as calcium chloride, and is freed by means of bleaching from the nickel, cobalt, and manganese which are thus converted. The resulting liquor is evaporated, the trace of calcium still in solution being first separated and then sodium chloride. The remaining leaves practically only zinc and calcium chlorides in the which is electrolysed to obtain metallic zinc and chlorine. Copper is present in addition to zinc, the silver and copper are added either before or after adding the calcium chloride. The is precipitated by metallic iron, or by electrolysis.

THE CULTIVATION OF SUGAR BEET IN ENGLAND.

The Imperial Institute, recently, Mr. Jasper More, M.P., presiding, a paper was read by Mr. J. Kersley Fowler on "The Beet, its cultivation and manufacture in the United Kingdom." H. Long, M.P., Minister of Agriculture, wrote regretting his inability to be present. Mr. Fowler began his paper by showing the deplorable condition of agriculture, and the necessity for some new departure in practice which should make farming profitable. More than 25 years ago Mr. J. Duncan, the sugar grower and fitted, with most approved machinery, a factory at Wymondham, Suffolk, for the manufacture of sugar from beetroot. The first year he visited this factory, coming away determined to grow Silesian beet seed, and cultivated five acres with great success. Mr. Duncan was, however, obliged to abandon his factory, although profitable, because he could not get the farmers to grow and deliver enough to keep the factory going. Nor was that to be wondered at, for though £1. a ton was paid the farmer for roots, wheat was then at over 60s. per quarter, as compared with the present price of 40s. It had been constantly asserted that the climatic conditions of England prevented the cultivation of sugar beet to advantage, but the assistance of Dr. Schack-Sommer, of Liverpool, he had that as large a percentage of sugar in the roots could be produced in this country as the best in Germany, France, or Belgium. Dr. Schack-Sommer had sent 15 pounds of the best selected seed from Russia to certain selected growers in this country, and they had obtained a percentage of over 14.30, while the best on the Continent was 14.40. A factory fully equipped would cost upwards of £10,000, and it was necessary to have delivered at the works at least 100 tons of roots by the end of October, as they were only useful for making sugar in the months of November, December, and January. The cost of growing and delivering an acre of sugar beet was £9. 5s., and as 15 tons per acre could be produced and the yield was about 17s. a ton, it showed that there was a good profit of 8s. per acre. That ought to be an inducement to the general adoption of this root. We pay the Continent upwards of £14,000,000. per annum for sugar, and, as it was clearly possible, we ought to be able to grow every ounce of beet sugar we consumed. An immense improvement in the quality of the root had been made. Twenty years ago it took 12½ tons of beetroot to produce a ton of sugar, but by selection of the best roots for the production of seed only 8½ tons were required to do the same now. The pulp after the sugar had been extracted was of considerable value for feeding cattle and was sold at 5s. a ton. As a proof of the great advantage to this country of the establishment of sugar factories, it was well-known that the Continent, wherever one existed, the land had improved in value 10 per cent. The lecturer concluded by calling upon the landowners to find capital to test the capabilities of the country, and asking the farmers should heartily combine to make the industry a success. A discussion followed, one speaker suggesting that a deputation should be appointed to wait upon the Minister for Agriculture to induce the Government to take up this matter in the interests of the country. The chairman and other speakers endorsed this suggestion.

NATIONAL BIMETALLIC CONFERENCE.—A conference of the Bimetallic Leagues of Great Britain, France, and Germany was opened at Paris on Tuesday, M. Loubet presiding. The object of the conference is to draw up a resolution on bimetallicism, to be presented to the Parliaments of the three countries. The terms of the resolution have been agreed upon and formally approved.

Trade Notes.

THE TEBESSA PHOSPHATE DISPUTE.—A correspondent in Paris advises us of the following telegram received on Thursday from private sources at Constantine, Algeria:—"The Boët trial has terminated after two sittings, without revealing anything fresh, owing to the absence of the principal witnesses. M. l'Avocat Massador reviewed the history of the phosphate question. He contended that Boët's permit remained good, and demanded the Barbotie concession, with one franc damages. Owing to the address made on behalf of the Public Prosecutor, and the spirited pleading of M. Saint-Auban, the jury acquitted the accused, though all the charges laid were not answered. M. le Prefect Lascombe has returned to Paris."

TOTAL ECLIPSE OF THE SUN.—It seems somewhat early to say anything about the next total eclipse, which will take place next August; yet for some time past active preparations have been going on for securing records of the event far in advance of anything that has been done in the past. The public is to be properly catered for, the Orient Navigation Co. even now making arrangements for taking passengers to Vadsö, Lapland, where, according to Colonel A. Burton-Brown, F.R.A.S., there are several hills some hundreds of feet in height easily accessible. From these points of vantage the Colonel is convinced the best views of the phenomenon will be obtained. The fare will cost forty guineas each passenger, yet there are doubtless many photographers—apart from the regular scientists—who will willingly pay this sum for the opportunity offered to them.

INTERESTING FACTS ABOUT A GREAT RAILWAY.—Which is the greatest corporation on earth? According to Mr. W. J. Gordon, it is the London and North-Western Railway. This company has a capital of £119,000,000., and a revenue of over £1,300. an hour; its 2,300 engines travel over 41,000,000 miles in the year; it employs over 60,000 men, and carries over 156,000 passengers a day. It makes everything it can for its own use, not only building its own bridges, engines, and rolling its own rails, but making the carriages and waggons, coal scuttles for its stations, and the wooden limbs for the injured of its staff. To keep the line in a proper state of repair takes £2,500. a day. The approach roads, the bridges and signals, and other necessities require £140,000. a year to keep them in working order, and about £100,000. a year goes in painting and repairing, besides £30,000. in re-building. Even the wages bill for the permanent way alone amounts to £26,000. a month. The repairs to the rolling stock are of course a serious item. To keep it up to the mark takes about £300,000. a year, of which £110,000. goes in wages. Railway carriages are not built for nothing; a third-class one is worth £600., and a first-class composite is worth £200. more, of which half is spent below the floor. The labour item in these days of machinery is very small, for it averages barely £20. a vehicle, notwithstanding that a first-class carriage takes 16 coats of paint before it is fit for service. It would be a good thing if some other companies we know would imitate the London and North-Western—even in the matter of paint!—*Westminster Gazette.*

THE MANCHESTER CORPORATION AND THEIR GAS RESIDUALS.—In view of the proposal to establish works for the manufacture of sulphate of ammonia from ammoniacal liquor produced in the manufacture of gas, Mr. G. E. Stevenson, the engineer at the Rochdale-road gasworks, has, at the request of the Chairman of the Committee (Mr. Alderman Gibson), visited several gasworks where sulphate of ammonia is manufactured, and has submitted his recommendations in the form of a report. After describing the various forms of stills, the methods adopted for drying and depositing the salt, and the several ways of treating and disposing of the waste liquors, Mr. Stevenson recommends the adoption of a plant similar to that in use at Beckton, as being the most powerful, completely automatic, and involving a comparatively small expenditure of labour. He estimates that a complete plant of sufficient capacity could be put up for a sum not exceeding £20,000. It is suggested that the plant should be erected at the Bradford-road gas station, to which place the liquor could be conveyed from Rochdale-road station by pumping through pipes, and from the Gaythorn works in the same way or by barges. Mr. Stevenson estimates that, manufacturing the ammoniacal liquor in the way suggested, there would be a margin of profit over and above the amount realised for liquor under the present contract of 22s. 2d. per ton of sulphate, which at 4,000 tons a year amounts to £4,433. 6s. 8d. in the year. The Committee are urged not to entertain the idea of a partial or experimental plant. Sulphate manufacture, the report says, is not an experiment; it is a matter of long practical experience. The plant is now as perfect as it is likely to become, and the results are well known and guaranteed. The plant is also so compact and so powerful in proportion to its dimensions that apparatus suitable for a large production costs little more than apparatus for a small production; but if a small plant were

put up and afterwards added to the first cost would be greater, and the working expenses permanently increased. Mr. Stevenson is certain that the enterprise would be a great success, and that no nuisance whatever would be created.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Tar products in general are very firm. Benzols have reached a very respectable figure, which is no longer nominal. For 90's 2s. 4½d. is obtainable, and for 50/90's 2s. 2d. Carbolic acids continue steady at 1s. 7½d. for 60% crude, and for 40% crystals 6½d. Crude naphtha has been variable, but the nearest value to-day is 9½d. to 10d. Solvent steady at 1s. 6d. Creosote and anthracene unaltered. Pitch easy at 36s. 6d. to 37s., f.o.b., East Coast.

The position of sulphate is not well defined. Prices are irregular, and, owing to the striking absence of orders, of a falling tendency. In consequence, to effect sales a concession is necessary, and in some cases has been accorded. Nearest values are:—Beckton £9., London outside makes £8. 15s., Liverpool £8. 13s. 9d. to £8. 15s., Hull £8. 12s. 6d., and Leith £8. 11s. 3d. to £8. 12s. 6d., all spot. Forward quite neglected.

REPORT ON MANURE MATERIAL.

There is little change in prices to report, and the market may be best described as a dragging one, so little interest being evinced by buyers generally. Mineral phosphates are still a drug, and the nearest value of high grade Florida rock is 6d. to 6½d. per unit, while Algerian has been offering from second hands, without, however, eliciting a bid. Quotations for other descriptions remain as last reported. River Plate bones are held for £3. 16s. 3d., delivered good United Kingdom ports, but buyers are indisposed to go beyond £3. 15s. for even handy sized cargoes. Crushed Kurrachee bones are stated to have been sold at £4. 1s. 3d. per ton, ex quay, while Bombay bone meal is quoted at £3. 16s. 3d. to £3. 17s. 6d., usual conditions. There is still some demand for bone cargoes for the Mediterranean, where the conditions in some respects are said to be more favourable than for United Kingdom, yet prices are uninfluenced so far. Nitrate of soda is steady. Cargoes, Nov.-Dec. sailing, are quoted 7s. 6d. to 7s. 7½d.; refined quality on spot is worth 7s. 7½d. per cwt., ordinary 7s. 6d.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, firm: Scotch warrants closed at 47s. 1½d.; Middlesbrough, 38s. cash, and hematite, 48s. 1½d. Copper, quiet: Chili bars, G. O. B.'s and G. M. B.'s closed at £42. 13s. 9d. to £42. 18s. 9d. cash, and £43. 1s. 3d. to £43. 6s. 3d. three months. Tin firmer: Straits closed at £61. 12s. 6d. to £62. 2s. 6d. cash, and £62. 2s. 6d. to £62. 12s. 6d. three months. Australian, £62. 7s. 6d. English ingots, £65. to £65. 5s. Lead, steady: Spanish, £11. 10s.; English, £11. 12s. 6d. to £11. 13s. 9d. Silesian spelter, ordinary, £14. 12s. 6d. Nickel, 1s. 1½d. Antimony, £30. 10s. Quicksilver steady: first hands, £7. 7s. 6d.; second hands, £7. 2s. 6d. Copper shares, quiet: Cape, 2½ to 2½; Copiapo, 2½ to 2½; Libiola, 2½ to 3; Mason and Barry, 2½ to 2½; Rio Tinto, 15½ to 16; Tharsis, 4½ to 4½.

GLASGOW, WEDNESDAY.—Market firm, with small business. Scotch done at 47s. 1½d. cash, also at 47s. 4d. one month; closing with buyers at 47s. 1½d. cash, sellers ask 47s. 2d. Cleveland closes with buyers at 38s. cash, sellers ask 38s. 1d. Cumberland hematite done at 48s. 4d. one month; closing with buyers at 48s. 1½d. cash, sellers ask 48s. 2d. Middlesbrough hematite closes with buyers at 45s. 8½d. cash, sellers ask 45s. 9½d.

LIVERPOOL MINERAL MARKET.

Our market still maintains its firm tone. Manganese: Arrivals have been practically nil, and stocks have been further reduced. The demand is fair, and prices are firm, with an upward tendency. Ground manganese meets with a good demand at £6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore continues firm at 26s. to 27s. 6d. per ton, c.i.f. Chrome ore: Arrivals are somewhat

slower, and having gone direct into consumption, prices remain firm. The demand continues good, while stocks are nil. Bauxite: demand is good, and prices are firmer at 20s. for first, 16s. for second and 12s. for third quality, f.o.b., in cargoes. French chalk: Arrivals have somewhat improved, but the demand for "Angel White" is still continues in excess of the supply, and with no stocks prices firm at 70s. to 75s., 80s. to 90s., and 100s. to 110s. per ton, according to grade. Magnesite still continues low, but with the probability increased requirements for specific purposes, will no doubt have advance in price. Wolfram and scheelite: Stocks are small, and prices are firm, with a good inquiry. Arsenic is strong at high prices. Full earth continues in very good request, and is bringing full prices as quoted. Rottenstone: Prime qualities are scarce, and prices are high. Ochres and umbers continue steady; J. C. ochre being done at 10 to 65s. per ton, and prime umber at 40s. Oxides of iron are steady. Good strong staining £6 to £10.; prime qualities £18. to £20. per ton. Carbonate of barytes is steady, but with the winter supply we will doubt see a change; sulphate, prime quality, is scarce; the demand is good and price firm. Fluor and feld spars are steady with alteration. Emery stone meets with a better inquiry: Prime Tur at 75s. to 95s., according to quality, and Naxos still firm at last price and likely to go higher. Mica: The demand is steady: Prime good qualities £15. to £18. per ton. Bog ore continues in good request 22s. 6d. per ton. Plumbago is in somewhat better demand for foundry and lubricating purposes at £6. to £10. per ton, and prime Ceylon £15. to £18. per ton. Pumice stone: Prime £10. to £12. per ton, powdered £7. to £8. per ton.

MISCELLANEOUS CHEMICAL MARKET.

Demand for alkalies and bleaching powder continues good, especially for export, price of bleach being steadily held at £7. 7s. 6d. in Liverpool, and there is every probability of price being strongly maintained for forward delivery. The chief event of importance during week is the reported collapse of the arrangement between the makers of ammonia alkali to regulate output and price. No change in market value has yet taken place, price being for 58% alkali, in 10-ton lots, £3. 5s. to £3. 7s. 6d. for makers' works. Prices for caustic soda slightly easier, viz., f.o.b. Liverpool: 77%, £9. 5s.; 74%, £8. 7s. 70%, £7. 7s. 6d.; 60%, £6. 10s. 10-ton lots. Soda crystals unaltered. Bicarbonate refined is still maintained at £6. 1s. f.o.b. Saltcake on the spot, at 25s. per ton; forward delivery, 25s. to 27s. 6d. per ton. Chlorate of potash and soda without change, at 4½d. and 6½d. per lb. respectively. Sulphate of copper still in good request, at £16. to £16. 10s. f.o.b. Potash, caustic and carbonate in fair demand, without alteration in prices. Aniline oil and salt dearer, owing to advance in benzene. Acetates of lime, brown and grey, are in steady demand, and prices are unaltered. White sugar of lead, foreign, £21, c.i.f. Brown sugar of lead scarcer. Sulphur without improvement, at £3. 12s. 6d. mal works, best quality. White powdered arsenic very scarce, at £15. to £16. at Garston, etc. There is all round a better demand for vitriol and muriatic acid, higher prices being paid. Sulphocyanate quiet, and without alteration in price. Prussiate of potash, 7½d. 8d. per lb. In cyanide of potassium some sales are reported at 1s. 4d. Generally speaking there is more movement in chemicals, no very distinct improvement in the tone of the market.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.
OILS.—Palm is rather easy, as buyers are scarce. Holders continue to offer in small quantities only, however. Transactions are few far between. Olive, owing to the small amount on the market, firm, but rather quiet. Linseed is steady, the price for Liverpool makes in export casks is still 20s. 9d. to 21s. 6d. per cwt. There is change in the prices of cottonseed, the market being quiet at 17s. to 18s. for Liverpool refined and 18s. to 18s. 3d. for American. Cotton continues firm at 2½d. for good seconds Calcutta; first pure French is steady at 2½d. per lb. Tallow quiet. North America unaltered. South has been done at 22s. 3d. per cwt. c.i.f. Rosin fairly well inquired for, and spot rates, on the basis of 4s. 10½d. common, are well maintained. Spirits of turpentine keep steady, a moderate demand, at 20s. 6d. per cwt. Petroleum is very firm, a tendency to rising values. Russian refined, however, stands at 6s. as yet, and American 7½d. to 8½d. per gallon.

COLOURS are steady, without alteration in price. Ochres: Oxfordshire, common, £10., medium, £12., best, £14. Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, 190s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umbers: Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red

ged. Venetian red, £6. to £10. Cobalt: Prepared oxide, black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, Oxide of iron: Common, £7.; medium, £10.; finest, £20. ide, £22. 10s. to £25.

JLL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

S.—The oil markets remain quiet. The principal imports against the same during the same period a year ago have been: 1, 703,133 quarters against 626,482 quarters; rapeseed, 137,931 s against 138,811 quarters; cottonseed, 183,680 tons against 183,680 tons; oilcakes, 15,315 against 15,191 tons; olive oil, 15,315 tons against 15,191; bones and ash, 805 tons against 2,640 tons. During the 15,964 quarters of linseed have been imported. Linseed is quiet at 18s. 10½d. naked spot or month. January-April, and May-August 18s. 7½d.; boiled and refined from £1. to £2. 10s. extra. The export for the week has been 1,000 cwt. the week the imports of cottonseed have been 4,995 tons from India. Refined cotton oil quiet, at 15s. 3d., naked, spot. Month 15s. 6d. to 15s. 6d. per cwt., Jan.-April offer at 15s. 9d., and May-15s. 6d. Crude, naked, spot, 13s. 7½d., January-April 14s. 3d. Casks £1., and ordinary barrels 30s. per ton extra. Cod oil 7s. to 19s. per cwt. Boiled siccative oil £13. per ton, fine unchanged. Olive oil from £32. 10s. to £35. per tun, oil 2½d. per lb. for first pressure. Liquid soap, £16. per ton. Oils in good demand at the advance.

ES.—A quiet trade for all kinds. Linseed cakes steady, at a price of 2s. 6d. per ton all round; 95% pure, £6. Russians, 6d. to £5. 17s. 6d. Oil cakes £5. 2s. 6d. Cotton Cakes at a slight reduction; best makes, £3. 12s. 6d. to £3. 15s.; 13s. 10s.; best makes, Dec.-April, £3. 12s. 6d. Rape unaltered.

NTS.—Business in these articles continues very indifferent, the orders are being placed for the New Year; still altogether the trade is limited. White lead, £16. per ton. Red lead, £14. per ton. Oxide of zinc unchanged. Various ordinary coloured paints 11. per ton. Putty, £5. 15. Dry mineral colours unchanged. Primer, 25s. per cwt. Imperial black varnish, £5. 10s. per barrels. Locomotive grease, £11. per ton. Anti-friction from £6. to £10. per ton. Oak varnish from 5s. 6d. per Ready mixed paints in tins 24s. 6d. per cwt.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

ate of ammonia must be set down as, if anything, a shade than it was seven days ago, and in this section of the market may be said to be at a standstill, except for such few unprovided made sales as are to be found on the books. There is no life in the article, and makers are now pretty well resigned to wait patiently until the year to see if that will give them anything of a lift. figure just now may be nominally set down as £8. 12s. 6d. to £8. 12s. 6d., there being very few sellers at the former, and no buyers at the latter. In general chemicals, there is hardly a movement of any kind at present, for while the market is idle prices are nominally upheld. soda is perhaps a shade easier, but without any positive giving. Mineral oils for burning purposes are in very large deliveries, and lubricants are in fair request—all at prices unchanged. raffins are moderately called for, and convention values are rule.

prices current are:—Soda crystals, £2. 2s. 6d., home, nett, Tyne; 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett, Tyne; caustic soda, white, 76° £9. 5s., 70/72° £7. 15s., 60/62° £6. 10s., all nett, Liverpool; bleaching £6. 10s. to £7. nett, Tyne; saltcake, 27s. 6d.; borax, English, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, 48/56°, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; soda of potash, 4½d. nett, for Scotch and English deliveries (for 1½d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); soda of potash, 4¾d. less 5%, Liverpool; nitrate of soda, 7s. 7½d. to 7s. 10d. nett, f.o.b. Glasgow; nitrate of soda, 7s. 7½d. to 7s. 10d. nett, f.o.b. Leith; niac, first and second white, £39. and £37. nett, any port; of copper, £16. 5s. to £16. 10s., less 5%, Liverpool; paraffin oil, 2½d., and soft, 1¾d. to 2½d. per lb.; paraffin wax, 120° red, 2½d. to 2¾d.; No. 1, 6½d., and crystal, 6¾d., at works, for buyers (English sales about ½d. lower); ditto (lubricating) 10s. to £4. 15s., 880° £5. to £5. 5s., and 890/895° £6. 10s. Week's imports of sugar at Greenock were 10,000 bags cane unrefined, and 8,000 bags beet unrefined.

TYNE CHEMICAL REPORT

TUESDAY.

Chemicals are only quiet, with small business doing, as is usual at this time of the year. Soda crystals unchanged, at £2. 2s. 6d. per ton, gross weights, locally. Sulphur steady, at £3. 17s. 6d. to £4. per ton. 76/77° caustic, £9. 5s. to £9. 10s.; 70%, £7. 15s. per ton.

Bleaching powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton, nett; caustic soda, 76/77°, £9. 10s. per ton, nett; do., 70%, £7. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £4. 10s. per ton, nett; soda ash, 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ton, nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 15s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 2s. 6d. per ton, nett weight; chlorate of potash, 5d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

SALT.—There is a steady demand for South Durham common salt at 9s. 6d. per ton, f.o.b., Tees.

COALS.—The dullness still continues for steam and bunker coals, though for gas coals the demand is good. Coke is steady, and there is a good business doing at 14s. 6d. to 15s. per ton f.o.b. To-day's prices are as follow:—Best Northumbrian steam, 8s. to 8s. 3d. per ton; second qualities, 7s. to 7s. 3d. per ton; small steam, 3s. 9d. to 4s. per ton; bunker coals, unscreened, 6s. to 7s. per ton; gas coals, firm at 6s. 6d. to 7s. 3d. per ton; coke, steady, 14s. to 15s. per ton.

New Companies.

Pen-y-Bryn Halkyn Lead Mine, Ltd.—CAPITAL £10,000, in shares of £1. each. This company has been formed to acquire and work certain lead mines in the famous Halkyn mountain, in the county of Flint.

Everbon and Co., Ltd.—CAPITAL £15,000., in £1. shares. This company has been formed to carry on the business of chemists, drysalters, and oil and colourmen. The subscribers to the memorandum of association are:—H. B. Littlewood, St. Winifred's, Chiswick, gentleman; E. S. Ferguson, 11, Gt. St. Helen's, E.C., merchant; E. Wilson, 98, Bishopsgate-street, E.C., gentleman; H. A. Millis, 98, Bishopsgate-street, E.C., caterer; C. A. Godfrey, Sidcup, Kent, secretary; C. M. Leitch, 108, Bishopsgate-street Within, E.C., secretary; D. Spence, 56, Bishopsgate-street Within, E.C., engineer.

Chas. Stanley and Son, Ltd.—CAPITAL £40,000., in shares of £20. This company has been formed to acquire the business carried on by C. L. Stanley, as Chas. Stanley and Son, Wath-upon-Dearne, Yorks., and to carry on the business of oil extractors and manufacturers of stearine, lubricating oils, soft soap, sheep dips and washes, manures, and chemicals. The subscribers to the memorandum of association are:—C. L. Stanley, Oakwood Hall, Rotherham, manufacturer; Mrs. C. L. Stanley, Oakwood Hall, Rotherham; Miss Mabel Stanley, Oakwood Hall, Rotherham; C. L. H. Stanley, Carr-road, Wath-upon-Dearne, manufacturer; J. P. Stanley, Carr-road, Wath-upon-Dearne, manufacturer; H. Lant, 34, High-street, Wath-upon-Dearne, analyst; C. H. Moss, Thorn Bank, Rotherham, chartered accountant.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

J. WOODS and W. MARTINDALE, brick and tile makers and potters, St. Helens, under the style of Woods and Martindale.

J. BRIGGS, H. BRIGGS, W. BRIGGS, and J. C. PROBERT, salt proprietors, Winsford, under the style of Briggs Bros. and Probert.

G. BENSON has retired from business as a manufacturer of cement, Paris white, etc., carried on at York as George Benson and Son, in favour of his son, J. H. Benson, who will in future carry on the business as George Benson and Son.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

CASSEL, FREDERICK ARTHUR, trading as Fred. A. Cassel and Co., and now or formerly trading as the Arabian Oil Company, Arabian Wharf, Blackhorse-road, Deptford, S.E., tar distiller and chemical manufacturer.

IMPORTS OF CHEMICAL PRODUCTS

AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM

LONDON.

Week ending November 30th.

Acetate of Lime—
Holland, 10 pks. Beresford & Co.

Acetic Acid—
Holland, 104 pks. A. & M. Zimmermann

Acetone—
Holland, 1 pk. G. Rahn & Co.

Alkali—
France, 300 c. Spies, Bros. & Co.

Ammonium Chloride—
Holland, 15 pks. H. Lorenz

Antimony Ore—
Sydney, 7 t. Dalgety & Co., Ltd.

Arsenic—
Portugal, 12 pks. J. Hall, jun., & Co.

Asbestos—
N. Russia, 120 Andorsen, Becker & Co.

Canada, 1,000 J. Owen

France, 9 Girard Frs. & Co.

Barytes—
Holland, 114 cks. W. Harrison & Co.

Belgium, 102 J. L. Lyon & Co.

Germany, 40 Blundell, Spence, & Co.

" 19 S. H. Willoughby

Boric Acid—
Italy, 6 pks. City Coml. Wf.

Bromine and Bromide of Iron—
Germany, 55 pks. A. & M. Zimmermann

Camphor—
Germany, 1 pk. T. H. Lee

" 2 L. & I. D. Jt. Co.

Caoutchouc—
Singapore, 150 c. E. Boustead & Co.

Thursday Is., 4 Mellwraith, McEacharn & Co.

France, 65 W. Balchin

Singapore, 237 Huttenbach & Co.

Germany, 40 W. Balchin

Natal, 140 L. & I. D. Jt. Co.

Germany, 2 Craven & Co.

Singapore, 85 Nat. S. S. Co.

Castor Oil—
Belgium, 31 brls. Fuerst Bros.

France, 60 Burrell & Co.

" 27 Beresford & Co.

" 70 F. Boehm

" 10 Jessop & Co.

Holland, 40 Burrell & Co.

Italy, 5 cs. L. & I. D. Jt. Co.

" 15 City Coml. Wf. Co.

" 25 Major & Field

Caustic Potash—
Holland, 40 pks. J. M. Steel & Co.

France, 20 F. W. Berk & Co.

Belgium, 4 drs. J. A. Reid

" 2 Petri Bros.

Chemicals (otherwise undesignated)—
Belgium, 13 cs. T. Palmer

Holland, 14 pks. J. Barber & Co.

Denmark, 120 Tegner, Price & Co.

Melbourne, 11 Sutton & Co.

Germany, 4 cks. 10 cs. H. Lambert

" 8 50 T. H. Lee

" 16 Petri Bros.

Spain, 12 bgs. M. de J. Levy & Sons

Germany, 20 pks. A. & M. Zimmermann

" 7 9 L. & I. D. Jt. Co.

" 3 cks. Craven & Co.

U. States, 5 Welch, Perrin & Co.

Cobalt Ore—
Spain, 1 t. J. Bamber

Cream of Tartar—
France, 8 pks. B. & F. Wf. Co.

" 5 F. C. Devon & Co.

" 5 W. C. Bacon & Co.

Spain, 5 J. Knill & Co.

Dyestuffs—
Argols
Italy, 100 pks. Thames S. T. & L. Co.

Cochineal
Germany, 22 pks. T. H. Lee

Canaries, 9 F. Huth & Co.

" 15 Knowles & Foster

Cutch
Germany, 100 pks. Leach & Co.

Extracts
Holland, 200 pks. H. Lambert

France, 125 L. J. Levinstein & Sons

U. States, 50 W. Burton & Sons

France, 30 Union Ltge. Co.

Denmark, 10 cs. A. F. White & Co.

Germany, 80 H. Johnson & Sons

U. States, 50 Skilbeck Bros.

Denmark, 10 kgs. J. F. Obree & Co.

France, 75 B. & F. Wf. Co.

Gambier
Singapore, 50 pks. Brinkmann & Co.

" 71 Ross & Deering

Indigo
E. Indies, 45 chts. Walker, Munsie & Co.

" 8 Croysdale & Co.

Germany, 8 srns. Andreae, jun., & Co.

Holland, 1 cs. M. Benschel

E. Indies, 19 Parsons & Keith

" 10 Blyth, Greene & Co.

" 5 J. Owen

Holland, 6 Richardson, Spence & Co.

E. Indies, 68 L. & I. D. Jt. Co.

Spain, 1 pk. C. Brumlen & Sons

Shumac
Italy, 1,500 pks. Bevington & Sons

" 50 Beresford & Co.

Tanner's Bark
Adelaide, 6 t. Beresford & Co.

" 15 Berry, Barclay & Co.

U. States, 18 Hicks, Nash & Co.

Adelaide, 5 L. J. Levinstein & Sons

Valonia
A. Turkey, 1 t. M. D. Co.

Dyestuffs (otherwise undesignated)
France, 1 pk. Hernu, Peron & Co.

Farina—
Holland, 100 pks. T. H. Lee

" 100 H. Lorenz

E. Indies, 3 R. Warner & Co.

France, 1 Hernu, Peron & Co.

Germany, 20 R. G. Hall & Co.

" 100 E. & T. Pink

Holland, 50 J. Barber & Co.

" 100 Dunlop Bros. & Co.

U. States, 165 B. Lampe

Holland, 50 J. Knill & Co.

French Chalk—
Austria, 128 W. Harrison & Co.

Glucose—
U. States, 500 pks. 500 c. G. Clark & Son

" 3,000 3,000 c. Pearce

" 500 500 Pelly & Co.

" 1,050 1,075 Humphrey & Co.

France, 200 200 R. G. Hall & Co.

Germany, 35 201 L. Norman & Co., Ltd.

U. States, 200 1,100 E. & T. Pink

" 200 1,149 L. Sutro & Co.

" 870 1,270 L. Norman & Co., Ltd.

" 100 600 Cole & Carey

Holland, 50 50 Props. Sun Wf.

Germany, 25 200 Bennett S. S. Co.

U. States, 1,000 1,000 E. Dixon

" 1,503 1,300 Fellows

" 1,503 1,300 Morton & Co.

Glue—
Aden, 23 t. Culverwell, Brooks, & Co.

Guano—
Aden, 23 t. Culverwell, Brooks, & Co.

Infusorial Earth—
Germany, 15 pks. Beresford & Co.

" 10 F. Boehm

Lead Acetate—
Germany, 15 pks. Beresford & Co.

" 10 F. Boehm

Litharge—
Germany, 12 cks. Petri Bros.

Manganese—
Germany, 20 t. C. S. Lovell

" 26 Craven & Co.

Magnesia—
Holland, 10 pks. Beresford & Co.

" 15 R. W. Greeff & Co.

Magnesium—
Germany, 3 pks. D. W. Greenbough & Son

Magnesium Chloride—
Germany, 73 pks. A. J. Luke & Co.

Magnesium Sulphate—
Germany, 50 pks. Berger, Kahler, & Co.

Manure—
E. Indies, 60 t. Fox, Roy, & Co.

Belgium, 10 C. A. & H. Nichols

Germany, 15 F. W. Berk & Co., Ltd.

Aden, 101 A. Hunter & Co.

Belgium, 7 S. M. Frankenstein & Co.

Mica—
U. States, 133 W. Dixon

Sydney, 200 Anderson, Anderson, & Co.

E. Indies, 2,670 W. M. Smith & Sons

Molasses—
Belgium, 17 cks. 117 c. Union L. Co., Ltd.

U. States, 100 550 Deering & Robottom

Ochre—
France, 8 cks. O'Hara & Hoar

Holland, 6 cs. Philipps & Graves

France, 313 W. Harrison & Co.

" 96 A. J. Smith

Pitch—
Germany, 74 brls. C. B. Leighton

Plumbago—
Germany, 25 cs. B. Dubowski & Sons

Ceylon, 60 cks. Doulton & Co.

" 80 Beresford & Co.

Germany, 19 B. Gallaway

Ceylon, 105 brls. N. S. S. Co.

Potassium Bicarbonate—
Holland, 4 cks. A. & M. Zimmermann

Potassium Carbonate—
Holland, 100 c. Beresford & Co.

France, 61 J. A. Reid

Potassium Chloride—
Germany, 700 pks. F. W. Berk & Co.

Potassium Cyanide—
Holland, 40 pks. F. Boehm

Pumice Stone—
Natal, 10 c. L. & I. Dk. Co.

Italy, 6 t. Seaward Bros.

" 2 Acton & Borman

" 4 W. J. Davies & Sons

" 5 T. Hill Jones

Pyrates—
Spain, 1 600 t. Naylor, Benzon, & Co.

Saltpetre—
Holland, 20 cks. P. Hecker & Co.

E. Indies, 665 bgs. Lucas & Spencer's Wf.

Germany, 175 cks. P. Hecker & Co.

Soda—
Germany, 174 c. H. Lambert

Soda Crystals—
Holland, 200 c. R. W. Greeff & Co.

Sodium Hypophosphite—
Germany, 126 pks. F. Boehm

Starch—
Belgium, 350 pks. E. & T. Pink

" 40 Arnati & Harrison

France, 75 A. J. Smith

Holland, 40 Philipps & Graves

Belgium, 40 Leach & Co.

U. States, 545 Oswego Co.

Germany, 2 L. & I. D. Jt. Co.

Belgium, 56 T. H. Lee

U. States, 46 R. G. Hall & Co.

Holland, 40 G. Rahn & Co.

Stearine—
France, 125 bgs. H. Hill & Sons

" 100 G. Boor & Co.

Belgium, 62 H. Hill & Sons

Sulphur—
Italy, 26 t. G. Boor & Co.

" 15 C. Tennant, Sons, & Co.

" 9 F. C. Devon & Co.

" 15 Smith & Son

Tartars—
Italy, 20 pks. Howard & Sons

Tartaric Acid—
France, 4 pks. F. C. Devon & Co.

" 1 J. & F. Wf. Co.

Holland, 20 Kirkpatrick & Co.

" 9 B. & F. Wf. Co.

Ultramarine—
Holland, 1 cs. Haefner, Hilpert, & Co.

Belgium, 2 cks. Leach & Co.

" 14 pkgs. W. Harrison & Co.

Varnish—
France, 15 pks. Suter, Hartmann, & Co.

U. States, 20 Pinchin, Johnson, & Co.

White Lead—
Holland, 57 cks. D. Storer & Sons

Germany, 14 Petri Bros.

" 13 M. Ashby, Ltd.

Holland, 18 Perkins & Homer

Germany, 16 Burrell & Co.

" 25 N. J. Fenner & Co.

" 28 Randall Bros.

" 56 F. G. Clifford

" 10 Taylor Bros.

Belgium, 25 Page, Son, & East

" 25 J. L. Lyon & Co.

Wood Pulp—
Sweden, 120 pks. W. D. Cork

" 5,507 Tough & Henderson

" 280 W. G. Taylor & Co.

Belgium, 25 Tough & Henderson

Denmark, 400 E. J. & W. Goldsmith

" 1,600

Norway, 2,270

" 918 J. Gronsdal & Co.

" 100 Tough & Henderson

Sweden, 516 C. S. Lovell

Holland, 25 T. H. Lee

" 2,132 E. J. & W. Goldsmith

Zinc Oxide—
U. States, 100 cks. M. Ashby, Ltd.

Holland, 50

U. States, 15 W. Harrison & Co.

Holland, 130 Soundy & Sons

Germany, 150 M. Ashby, Ltd.

LIVERPOOL.

of Tartar—
4 cks. Baird Bros.
am, 2
2
fa—
robilla
150, 415 bgs. Pelassie & Liste
s
24 cks.
rk, 183 bxs. 25 cs.
cia, 75 bls.
phia, 240 cks. Boucher, Bacon & Co.
es, 100 brls.
x, 50
53 De Clermont & Donner
rk, 202
1
25 J. T. Fletcher & Co.
1
7,512 pcs. W. H. Thompson & Co.
5,734 ps. D. Midgley & Son
2,090 Oetling & Co.
er
9 bls.
bolams
3,394 bgs.
lia
5 bls. Kaltenbach & Schmitz
on
1 cs.
lac
170 bls.
lia
96 bgs. Papayanni & Jeremias
174 bls. A. Gozifacchi
200 D. A. Galatti & Co.
4,530 75 t.
100 bgs. N. W. Jackson
re, 200 brls.
rk, 200 T. M. Duche & Sons
40 Maple Syrup Co.
rk, 673 20 cks.
2 brls.
am, 6 cs.
40 kgs. Richards & Ward
11 crts. 6 T. Robinson & Son
ire, 36 cks. 30
20 R. J. Francis & Co.
iso, 48 brls. H. Folsch & Co.
ese Ore—
atam, 1,194 t. Darwen & Mostyn Iron Co.
es, 87 cs.
7—
5, 1 ck.
12, 4,890 bgs. Bessler, Waechter & Co.
White—
200 bgs.
es, 17 cks.
31 Co-op. W'sale Society, Ltd.
34 R. J. Francis & Co.
rk, 5 brls.
20 cs.
Scale—
re, 230 brls.
rk, 378 Thompson & Bedford
Wax—
600 brls.

Phosphate—
St. Valery, 275 t. Phosphate Guano Co.
Pitch—
Marseilles, 48 brls.
Plumbago—
Genoa, 100 bgs. G. Huntriss & Co.
Potash—
Hamburg, 20 cks.
Antwerp, 25 dms.
Potassium Sulphate—
Antwerp, 150 bgs. J. T. Fletcher & Co.
Rosin—
New York, 200 brls.
Saltpetre—
Hamburg, 50 bgs. 4 cks.
Soap—
New York, 100 bxs. B. T. Babbit
Marseilles, 140 cs.
Boston, 4 P. T. Thompson
Soapstone—
Trieste, 100 bls. W. Harrison & Co.
Starch—
Baltimore, 500 sks
New York, 320 bgs.
Boston, 2 cs. P. Haggitires
5 brls. Robinson & Clearn
J. T. Fletcher & Co.
Antwerp, 12
Rotterdam, 120
Stearine—
Boston, 110 tcs. 15 bgs.
Bordeaux, 25 hds.
New York, 3 cks. J. T. Fletcher & Co.
Antwerp, 136 bgs.
Talc—
Genoa, 50 bgs.
Tallow—
Philadelphia, 125 cs. 125 tcs.
New York, 200 hds.
Tartar—
Bordeaux, 9 cks.
Treacle—
Philadelphia, 400 brls.
Bordeaux, 1 cs.
Waste Salt—
Hamburg, 3,114 bgs.
White Lead—
Rotterdam, 56 cks.
Antwerp, 14
Dunkirk, 4 brls.
Rotterdam, 13 J. Matthews & Co.
Wood Pulp—
Rotterdam, 277 bls.
Drammen, 4,500 Christopherson, Andrews & Co.
Christiania, 1,060 M. G. Skramnes
" 260 Christopherson, Andrews & Co.
Sannesund, 4,160 Kellner Partington Paper Pulp Co.
Zinc Ashes—
Nantes, 56 sks. R. J. Francis & Co.
Zinc Oxide—
New York, 130 brls.
Antwerp, 65

MANCHESTER.

Week ending November 30th.

Acetic Acid—
Rotterdam, 2 cks.
Albumen—
Hamburg, 4 cks.
Ghent, 7 cs.
Alumina Sulphate—
Rotterdam, 67 cks.
Aniline Colours—
Hamburg, 54 cks. 5 cs.
Aniline Oil—
Rotterdam, 5 brls.
Barium Chloride—
Rotterdam, 12 cks. 8 brls.
Barytes—
Rotterdam, 200 bgs.
Antwerp, 190
Bog Ore—
Rotterdam, qty.
Castor Oil—
Antwerp, 135 brls.

Coal Tar Products (otherwise un-

described)—
Rotterdam, 99 cks.
Colours—
Rotterdam, 39 cks. 40 cs. 13 bks.
61 brls.
Hamburg, 10 15
Paris, 5 1
Ghent, 1
Antwerp, 7 J. T. Fletcher & Co.
10 cs.
Copper Sulphate—
Treport, 100 bgs.
Dyestuffs—
Extracts
Rotterdam, 21 cks.
Treport, 14 10 cs. 24 pgs.
Fusile
Punta Arenas, 1,137 t. Mucklow & Co.
Farina—
Rotterdam, 1,670 bgs.
Hamburg, 40
Antwerp, 5
Glue—
Hamburg, 50 bgs.
Treport, 115 bls.
Antwerp, 20
Litharge—
Rotterdam, 35 cks.
Antwerp, 4 brls.
Nickel Sulphate—
Rotterdam, 1 ck.
Ochre—
Treport, 20 cks.
Pitch—
Hamburg, 60 cks. 69 cs.
Potash—
Rotterdam, 11 cks.
Treport, 33 17 dms.
Sodium Nitrate—
Rotterdam, 4 cks.
Starch—
Rotterdam, 80 cs.
Ghent, 28 J. T. Fletcher & Co.
Stearine—
Antwerp, 12 bgs.
Sulphuric Acid—
Rotterdam, 10 cks.
Tallow—
Rotterdam, 331 cks.
Tartar Emetic—
Hamburg, 18 cks.
Tartaric Acid—
Rotterdam, 28 cks. 10 kgs.
Tin Perchloride—
Antwerp, 12 cks.
Waste Salt—
Hamburg, 100 bgs. qty.
White Lead—
Rotterdam, 6 cks.
Antwerp, 8
Wood Pulp—
Sundswall, 17,118 bls. A. Wertheim & Co.
Skein, 2,450
Gothenburg, 5,699
Christiania, 13,364
Drammen, 854
Fredrikshald, 700
Sannesund, 1,200
Wood Spirit—
Hamburg, 4 dms.
Zinc Oxide—
Rotterdam, 50 brls.
Zinc White—
Rotterdam, 15 cks.

HULL.

Week ending November 30th.

Acetic Acid—
Antwerp, 20 crbys. Bailey & Leatham
Rotterdam, 11 balloons W. & C. L. Ringrose
Acid—
Leghorn, 183 cks. Wilson, Sons, & Co., Ltd.
Bari, 20
Messina, 8
Albumen—
St. Petersburg, 10 cs. Wilson, Sons, & Co., Ltd.

Ammonia—
Rotterdam, 1 ck. W. & C. L. Ringrose
Arsenic—
Hamburg, 20 cks. Wilson, Sons, & Co., Ltd.
Barytes—
Antwerp, 56 cks. 100 bgs. Bailey Leatham
Riga, 100 Sons, & Co., Ltd.
Rotterdam, 21 Hutchinson & Son
Bremen, 18 G. Holmes & Co.
Camphor—
Hamburg, 3 brls. Wilson, Sons, & Co., Ltd.
Castor Oil—
Trieste, 3 cs. Wilson, Sons, & Co., Ltd.
Chemicals (otherwise undescribed)
Marseilles, 11 cks.
Hamburg, 2 Wilson, Sons, & Co., Ltd.
Stettin, 3
Colours—
Danzig, 10 pks.
Rotterdam, 96 5 cks. 5 cs. W. & C. L. Ringrose
Hamburg, 5 cs. G. Malcolm & Son
Antwerp, 1 ck. Bailey & Leatham
Stettin, 24 Wilson, Sons, & Co., Ltd.
Cottonseed Oil—
New York, 60 brls. Wilson, Sons, & Co., Ltd.
Creosote Salt—
Rotterdam, 2 brls. W. & C. L. Ringrose
Cryolite—
Copenhagen, 6 cks. Wilson, Sons, & Co., Ltd.
Dextrine—
Harlingen, 20 bgs. Wilson, Sons, & Co., Ltd.
Stettin, 160
Dyestuffs—
Alizarine
Rotterdam, 24 cks. 41 brls. W. & C. L. Ringrose
Logwood
Hamburg, 90 bgs. Wilson, Sons, & Co., Ltd.
Madder
Rotterdam, 2 cks. Hutchinson & Son
Sumac
Trieste, 20 bls. Wilson, Sons, & Co., Ltd.
Palermo, 3,155 bgs.
Farina—
Stettin, 250 bgs.
Ghent, 122 cs. Wilson, Sons, & Co., Ltd.
Stettin, 400 bgs.
Harlingen, 200
Glucose—
Hamburg, 40 bgs. A. E. Hornstedt & Co.
Stettin, 5 cks. Wilson, Sons, & Co., Ltd.
Rotterdam, 70 bgs. Hutchinson & Son
New York, 650 cks.
Glue—
Trieste, 1 brl.
Stettin, 60 bgs. Wilson, Sons, & Co., Ltd.
Konigsberg, 20 Bailey & Leatham
Kaolin—
Amsterdam, 20 cks. Hutchinson & Son
Lead Acetate—
Stettin, 28 cks. Wilson, Sons, & Co., Ltd.
Hamburg, 1
Mineral White—
Fiume, 50 bgs. Wilson, Sons, & Co., Ltd.
" 50
Naphthol—
Rotterdam, 8 bxs. 10cs. W. & C. L. Ringrose
Ochre—
Marseilles, 15 cks. Wilson, Sons, & Co., Ltd.
" 2

Phosphate — Ghent, 1,000 bgs. Wilson, Sons, & Co., Ltd. Pitch — Amsterdam, 13 cks. W. & C. L. Ringrose Plumbago — Hamburg, 9 cks. Wilson, Sons, & Co., Ltd. Potash — Rotterdam, 5 bgs. Wilson, Sons, & Co., Ltd. Pumice Stone — Leghorn, 75 cs. Wilson, Sons, & Co., Ltd. Messina, 157 pks. "Hutchinson & Son Soap — Marseilles, 6 cs. Wilson, Sons, & Co., Ltd. Soapstone — Drontheim, 39 pcs. Wilson, Sons, & Co., Ltd. Sodium Nitrate — Hamburg, 235 kgs. Wilson, Sons, & Co., Ltd. Starch — Bremen, 2,537 cs. Veltmann & Co. Tallow — New York, 300 trcs. Wilson, Sons, & Co., Ltd. Tartaric Acid — Rotterdam, 8 cks. Hutchinson & Son Treacle — Stockholm, 25 brls. Wilson, Sons, & Co., Ltd. Turpentine — New York, 650 " " Ultramarine — Libau, 53 cks. " " Waste Salt — Amsterdam, 4 cks. W. & C. L. Ringrose White Lead — Hamburg, qty. Bailey & Leatham Wood Pulp — Rotterdam, 41 cks. Hutchinson & Son 	Bone Meal — Hangesund, 57 bgs. Castor Oil — Antwerp, 57 cks. Chemicals (otherwise undescribed) — Rotterdam, 1 bx. J. Rankine & Son Chrome Ore — New Caledonia, 600 t. Stevenson, Carlile & Co. Cobalt Ore — New Caledonia, 752 t. Nickel Co. Colours — Rotterdam, 7 brls. 7 bxs. J. Rankine & Son Cottonseed Oil — Hamburg, 2 cks. Dyestuffs — Rotterdam, 57 pkgs. Alizarine — Baltimore, 60 brls. Extracts — Rotterdam, 8 brls. J. Rankine & Son Sumac Extract — Hamburg, 4 cks. French Chalk — Fiume, 100 bgs. P. McIntosh & Co. Glucose — Baltimore, 150 brls. Glue — Nantes, 4 cks. Hydrofluoric Acid — Hamburg, 73 " " Iron Oxide — Trieste, 26 cks. Ferguson & Reid Potash — Rotterdam, 143 cks. J. Rankine & Son Pyrites — Hamburg, 40 dms. Tharsis Co. Rosin — Huelva, 1,687 t. Saltpetre — Baltimore, 500 brls. Soap — Calcutta, 245 cks. Starch — Hamburg, 5 cks. Tallow — Fiume, 110 cs. Tartar — New York, 539 pkgs. 	Waste Salt — Hamburg, 3,854 bgs. White Lead — Rotterdam, 67 cks. J. Rankine & Son Wood Pulp — Fiume, 204 bls. Zinc Oxide — Christiania, 2,056 " " Zinc Sulphate — Antwerp, 25 cks. Zinc White — New York, 50 brls. Rotterdam , 15 cks. J. Rankine & Son Rotterdam , 53 brls. Rotterdam , 25 cks. J. Rankine & Co. 	Zinc White — Rotterdam, 10 cks. Tyne S. S. Co.
GLASGOW. <i>Week ending December 5th.</i> Alum — Hamburg, 125 cks. Arachide Oil — Rotterdam, 7 cks. J. Rankine & Son Asbestos — Quebec, 200 bgs. Barium Sulphate — Antwerp, 454 bgs. Barytes — Rotterdam, 88 cks. J. Rankine & Son 	Waste Salt — Hamburg, 30 bgs. Tyne S. S. Co. Glucose — Hamburg, 150 brls. Tyne S. S. Co. Kieselguhr — Bergen, 108 bgs. Lead Nitrate — Rotterdam, 7 cks. Tyne S. S. Co. Limestone — Antwerp, 7 crts. Tyne S. S. Co. Paint — Christiania, 2 cs. Pyrites — Carthage, 1,916 t. Salt — Hamburg, 144 t. Saltpetre Salt — Aguilas, 100 sks. Soap — Hamburg, 660 t. Clephans & Wiencke Stearine — Rotterdam, 8 cs. Tyne S. S. Co. Tartaric Acid — Antwerp, 6 bgs. Tyne S. S. Co. Ultramarine — Rotterdam, 4 cks. Tyne S. S. Co. Wood Pulp — Rotterdam, 2 cs. Tyne S. S. Co. Zinc Oxide — Christiania, 240 bls. 	Waste Salt — Hamburg, 30 bgs. Tyne S. S. Co. Glucose — Hamburg, 150 brls. Tyne S. S. Co. Kieselguhr — Bergen, 108 bgs. Lead Nitrate — Rotterdam, 7 cks. Tyne S. S. Co. Limestone — Antwerp, 7 crts. Tyne S. S. Co. Paint — Christiania, 2 cs. Pyrites — Carthage, 1,916 t. Salt — Hamburg, 144 t. Saltpetre Salt — Aguilas, 100 sks. Soap — Hamburg, 660 t. Clephans & Wiencke Stearine — Rotterdam, 8 cs. Tyne S. S. Co. Tartaric Acid — Antwerp, 6 bgs. Tyne S. S. Co. Ultramarine — Rotterdam, 4 cks. Tyne S. S. Co. Wood Pulp — Rotterdam, 2 cs. Tyne S. S. Co. Zinc Oxide — Christiania, 240 bls. 	GOOLE. <i>Week ending November 27th.</i> Alum — Rotterdam, 38 cks. 64 bgs. Antimony — Boulogne, 2 cks. 1 cs. Caoutchouc — Boulogne, 4 cks. Colours — Hamburg, 10 cs. Dyestuffs — Ghent, 10 cks. 1 Alizarine — Rotterdam, 242 brls. 14 cs. Extract — Antwerp, 20 cs. Logwood — Hamburg, 90 t. Dyestuffs (otherwise undescribed) — Monte Christi, 600 Farina — Rotterdam, 313 cks. 70 cs. Glucose — Boulogne, 21 " " Lead Acetate — Hamburg, 530 bgs. Phosphate — Calais, 100 bgs. Potash — Hamburg, 3 cks. Pyrites — Ghent, 800 bgs. Saltpetre — Calais, 25 dms. Sulphur Ore — Dunkirk, 30 Waste Salt — Huelva, 1,095 t. Wood Pulp — Rotterdam, 50 cks. 210 bgs. Antwerp , 81
TYNE. <i>Week ending November 30th.</i> Alum Earth — Hamburg, 82 cks. Tyne S. S. Co. Asbestos — Hamburg, 2 bls. Barium — Rotterdam, 200 bgs. Tyne S. S. Co. Barytes — Antwerp, 534 bgs. Tyne S. S. Co. Cod Oil — Rotterdam, 140 " " Colours — Trondhjem, 2 brls. Gelatine — Bergen, 5 Glucose — Ghent, 2 brls. Tyne S. S. Co. Iron Oxide — Hamburg, 11,000 lbs. F. Richter & Co. Lead Nitrate — Hamburg, 20 bgs. Tyne S. S. Co. Limestone — New York, 150 brls. Tyne S. S. Co. Pyrites — Furness, Withy, & Co. Sulphur Ore — Seville, 700 t. Waste Salt — Hamburg, 260 t. 1,084 bgs. Wood Pulp — Hamburg, 186 pkgs. 	GLASGOW. <i>Week ending December 5th.</i> Alum — Hamburg, 125 cks. Arachide Oil — Rotterdam, 7 cks. J. Rankine & Son Asbestos — Quebec, 200 bgs. Barium Sulphate — Antwerp, 454 bgs. Barytes — Rotterdam, 88 cks. J. Rankine & Son 	TYNE. <i>Week ending November 30th.</i> Alum Earth — Hamburg, 82 cks. Tyne S. S. Co. Asbestos — Hamburg, 2 bls. Barium — Rotterdam, 200 bgs. Tyne S. S. Co. Barytes — Antwerp, 534 bgs. Tyne S. S. Co. Cod Oil — Rotterdam, 140 " " Colours — Trondhjem, 2 brls. Gelatine — Bergen, 5 Glucose — Ghent, 2 brls. Tyne S. S. Co. Iron Oxide — Hamburg, 11,000 lbs. F. Richter & Co. Lead Nitrate — Hamburg, 20 bgs. Tyne S. S. Co. Limestone — New York, 150 brls. Tyne S. S. Co. Pyrites — Furness, Withy, & Co. Sulphur Ore — Seville, 700 t. Waste Salt — Hamburg, 260 t. 1,084 bgs. Wood Pulp — Hamburg, 186 pkgs. 	GRIMSBY. <i>Week ending November 30th.</i> Caoutchouc — Hamburg, 5 cs. Chemicals (otherwise undescribed) — Rotterdam, 1 cs. Colours — Antwerp, 11 " 5 cs. Dyes — Hamburg, 21 cks. 19 " 54 cs. Farina — Hamburg, 2 cks. 18 cs. 50 Starch — Antwerp, 40 bgs.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending December 4th.

Acids — New York, 5 t. 6 c. £80 Asuncion, 15 cs. 21 Natal, 5 4 drs. 90	Alkali — Bombay, 3 t. 8 c. £6 Alcoa Bay, 3 t. 6
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Alum — Salonica, 10 t. 1 c. £57 Ammonia — Bombay, 5 cs. £10 Ammonia (Liquid) — Cadiz, 27 c. £24 Ammonium Carbonate — Rouen, 13 t. 9 c. £400 Ammonium Chloride — Odessa, 4 cks. £27	Ammonium Sulphate — Dunkirk, 120 t. £1,200 Ostend, 40 350 Ghent, 101 883 Valencia, 50 450 Anhydrous Ammonia — Cologne, 15 cyldrs. £31
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Rotterdam , 16 105 B. Ayres, 10 10 Chinde, 2 t. 50	Asenic — Yokohama, 3 t. 8 drs. Sydney, 1 10 c. Wellington, 1 10 c. Bisulphite of Lime — Calcutta, 2 t. 8 c. Borax — Adelaide, 1 t. Melbourne, 1 30 kgs. E. London, 2 10 c. Cadiz, 2 Auckland, 1
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Acid Gas— 16 cs. £11 Soda— 5 13 Bay, 5 t. 7 c. £50 New York, 6 18 London, 1 6 26 Madras, 1 11 45 Algoa Bay, 2 18 82 on, 12 17	Potash Salts— Normanton, 4 t. 4 c. £466 Towns, 8 11 918 Potassium Bicarbonate— Yokohama, 1 t. £28 Potassium Cyanide— New York, 30 cs. £217 Singapore, 5 46 Madras, 50 525 Algoa Bay, 12 t. 10 c. 1,778 Potassium Prussiate— Hamburg, 10 cks. £112 Antwerp, 11 211 Salicylic Acid— New York, 2 c. £20 Salt Cake— Ghent, 130 t. £228 Saltpetre— Adelaide, 1 t. £22 Callao, 13 c. 14 Rio de Janeiro, 2 13 62 M. Video, 11 13 Corinto, 1 22 B. Ayres, 1 11 39 Newport News, 13 15 306 Sheep Dip— New York, 11 t. 3 c. £687 Patagonia, 130 kgs. 195 Wellington, 3 6 110 B. Ayres, 44 3 1,387 Gisborne, 100 cs. 275 Calcutta, 4 cks. 20 Falkland Is., 2 5 50 463 E. London, 3 350 drs. 148 Soda— Bri-bane, 1 t. £8 Cape Town, 4 3 c. 10 Demerara, 10 22 Soda Alkali— Alexandria, 17 c. £7 Soda Salts— Wellington, 13 t. £40 Sodium Bicarbonate— Asuncion, 1 t. £7 Algoa Bay, 2 13 Sodium Sulphite— Toronto, 10 cs. £135 Sulphuric Acid— Algoa Bay, 8 t. 15 c. £35 Tartaric Acid— Adelaide, 5 c. £32 Melbourne, 1 t. 2 123	Asbestos— Pernambuco, 1 cs. £466 Philadelphia, 7 pkgs. 918 San Francisco, 1 ble. Santander, 1 ble. Barium Chlorate— Genoa, 5 c. £20 Basic Slag— Penang, 156 bls. Bleaching Powder— Alexandria, 3 cks. 118 Baltimore, 16 kgs. 18 cs. Bari, 18 cs. Bombay, 590 B. Ayres, 11 125 Calcutta, 15 Genoa, 5 Gothenburg, 99 Newport News, 353 Rouen, 13 Boracic Acid— Calcutta, 11 c. £17 Borax— Sydney, 3 t. 1 c. 2 q. £67 Norfolk, 2 3 1 43 Algoa Bay, 12 11 53 Vera Cruz, 16 3 17 Antwerp, 16 9 2 330 Rotterdam, 10 9 2 209 Gibraltar, 8 2 2 Barcelona, 8 13 3 174 Adelaide, 3 5 1 68 Gothenburg, 1 3 25 Hamburg, 31 10 2 635 Montreal, 5 4 105 Halifax, 3 12 68 Calcined Magnesia— Amsterdam, 10 t. 5 c. 3 q. £70 Calcium Chloride— New York, 10 t. 3 c. 2 q. £24 Camphor— New York, 1 cs. £24 Caoutchouc— Rio de Janeiro, 2 cs. Carbolic Acid— Genoa, 5 c. 1 q. £10 Baltimore, 7 t. 2 304 Rotterdam, 11 8 80 Hamburg, 18 51 Colombo, 11 3 6 Castor Oil— Kingston, Ja., 5 cs. Montreal, 4 Caustic Potash— Leghorn, 5 c. £5 Caustic Soda— Alexandria, 10 dms. Amsterdam, 50 Ancona, 90 Antwerp, 18 Baltimore, 180 Barcelona, 25 100 cks. Bombay, 102 Bordeaux, 15 Boston, 66 100 brls. Cadiz, 5 10 Callao, 15 Ceara, 35 Christiania, 55 Colombo, 8 Genoa, 198 Havre, 34 Hamburg, 51 Hiogo, 250 Hong Kong, 10 La Guayra, 10 La Libertad, 50 Malaga, 123 Marseilles, 71 Melbourne, 37 Messina, 15 Monterey, 30 M. Video, 87 Naples, 26 N. Orleans, 50 Newport N., 2,085 New York, 385 99 brls. Philadelphia, 444 50 bxs. Pt. Elizabeth, 50 Porto Alegre, 50 Revel, 150 145 Seville, 150 Stockholm, 6 Sydney, 217 Tampico, 100 Valencia, 30 Wellington, 10 Chemicals (otherwise undescribed) Calcutta, 42 t. 2 q. £125 Venice, 12 c. 21 Genoa, 2 68	New York, 8 15 290 Marseilles, 12 22 Alexandria, 10 18 Gefle, 10 16 Odessa, 5 11 204 Lisbon, 1 2 68 Philadelphia, 12 19 426 China Clay— Boston, 20 t. Chrome Ore— Dunkirk, 5 t. Citric Acid— Cadiz, 1 c. £7 Coal Products— Aniline Colours Barcelona, 1 cs. 1 kg. Aniline Salts Boston, 65 cks. New York, 64 Anthracene Rotterdam, 12 t. 4 c. Pitch New York, 15 cks. Rouen, 11 Tar Mussara, 2 cks. Noqui, 6 brls. St. John's, Nfld., 9 cks. Coal Tar Products (otherwise undescribed)— New York, 30 brls. Cobalt Oxide— Gijon, 2 c. £55 Copperas— Sydney, 10 c. £5 Rio de Janeiro, 5 t. 8 Valparaiso, 24 18 40 Copper Sulphate— Rio de Janeiro, 11 c. 3 q. £10 Syra, 9 2 8 Constantinople, 1 t. 17 2 27 Ancona, 14 19 1 237 Bari, 6 1 1 93 M. Video, 14 17 3 182 B. Ayres, 10 2 148 Pachuca, 19 17 2 312 Naples, 21 8 343 Genoa, 14 1 221 Leghorn, 24 18 2 386 Barcelona, 5 1 2 65 Nantes, 33 11 1 489 Seville, 2 14 2 46 Rouen, 31 6 3 460 Cream of Tartar— Portland, M., 2 c. £12 Las Palmas, 5 25 Dried Blood— Boston, 1 t. 4 c. 2 q. £32 Glue— Bombay, 1 ck. Guano— Lisbon, 4 t. 17 c. £30 Gypsum— New York, 37 t. 8 c. £102 Insecticide— B. Ayres, 5 cs. £3 Iron Liquor— Lisbon, 10 t. £60 Lime— Porto Novo, 8 t. 7 c. 2 q. £19 Salt Pond, 20 brls. Magnesium Chloride— Paris, 5 t. 2 c. £12 Magnesium Sulphate— Seville, 4 t. 17 c. £23 Mauritius, 100 kgs. Vera Cruz, 5 brls. Manure— Valencia, 30 t. £70 Nantes, 5 2 c. 58 Ochre— Lagos, 6 brls. Paint— Alexandria, 90 kgs. Algoa Bay, 1 ck. Antwerp, 4 3 3 bxs. Bilbao, 8 302 40 dms. B. Ayres, 8 80 20 Calcutta, 602 40 dms. Callao, 80 20 Cape Haitien, 4 Ferrol, 1 Gibraltar, 5
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LIVERPOOL.

Week ending December 4th.

Alum— B. Ayres, 8 t. 11 c. 1 q. £39 M. Video, 9 5 3 45 Beyrout, 3 18 18 Syra, 1 17 9 Malta, 3 1 13 Melbourne, 1 6 Havana, 6 20 Porto Lagos, 1 8 6 Varna, 3 1 14 Seville, 2 10 Oporto, 18 5 Ancona, 1 5 6 San Francisco, 20 100 Bombay, 14 2 67 Alumina Sulphate— Portland, M., 10 t. 3 c. 2 q. £46 Aluminium— Bilbao, 1 cs. Ammonium Carbonate— New York, 6 c. £10 Naples, 5 9 Hiogo, 1 t. 2 40 Stockholm, 3 2 110 Seville, 6 11 Marseilles, 1 18 1 q. 56 Ammonium Chloride— Genoa, 1 t. 10 c. £36 Hiogo, 1 24 Bombay, 1 10 50 Ammonium Sulphate— Huelva, 5 t. 5 c. 3 q. £48 Philadelphia, 50 10 561 Palermo, 2 3 20 Antwerp, 30 8 3 275 Gd. Canary, 27 11 266 Las Palmas, 10 6 92 Valencia, 75 5 1 700 Baltimore, 26 250 Messina, 5 47 Teneriffe, 15 140 Bordeaux, 10 3 90 Genoa, 20 3 2 182 Sourabaya, 255 2,422

ed Oil—
 andria, 25 brls.
 3
ers' Colours—
 rdam, 8 cs.
 ire, 4
Dip—
 javik, 200 tins
Alkali—
 rt, 6 cks. 46 kgs.
il—
 erp, 2 dms.
 rt, 26 cks.
sh—
 lona, 6 cks.
 ay, 1 pkge.
Chloride—
 ay, 14 cks.

HULL.

Week ending November 30th.

ium—
 rp, 2 cks.
ium Sulphate—
 rp, 500 bgs.
 rdam, 135
 h, 261
 rdam, 12 dms.
ing Powder—
 h, 6 cks.
 h, 51
 e, 7
ic Acid—
 rp, 6 cks.
c Soda—
 g, 35 dms
als (otherwise undescribed)
 rp, 2 cks. 13 cs.
 ania, 24 pks.
 ntinople, 35
 agen, 27 10
 h, 25
 7 dms.
 burg, 15 1
 arg, 138
 gen, 1
 ork, 15
 100
 61
 25
 90
 2
 47
 10
 51
 3
eed Oil—
 p, 400 c.
 dam, 1,075
 200
 100
 rg, 353
 am, 1,439
 200
He (otherwise undescribed)
 tinople, 3 cs.
 ork, 10 dms.
 10 pks.
 ork, 78 cks.
Oil—
 18 c.
 nia, 211
 nsund, 18
 ugen, 34
 im, 42
 g, 373
 am, 52
 er, 3
White—
 h, 25 cks.
 10 bgs.
 en, 200
s' Colours—
 h, 1 cs. 11 cks. 4 dms. 351 pks
 am, 13
 21 74
 21 144
 1 cs.
 7
 9
 40 1
 6
 1
 18 1
 1

Phosphorus—
 Gothenburg, 23 cs.
 Hamburg, 10
Pitch—
 Antwerp, 185 t.
 New York, 200 cks.
 Odessa, 100
Soap—
 Antwerp, 13 bxs.
 Copenhagen, 1 cs.
 Danzig, 1
Starch—
 Christiania, 10 bgs.
Tallow—
 Gothenburg, 5 cks.
Tar—
 Amsterdam, 6 cks.
 Constantinople, 3 cs.
 Hamburg, 6
 Rotterdam, 3
 Stettin, 2 pks.
Tar Oil—
 Gothenburg, 10 cks.
 Rouen, 12
Treacle—
 Christiansund, 20 trcs.
Yarnish—
 Antwerp, 1 cs.

GLASGOW.

Week ending December 5th.

Acid—
 Bombay, £35
Ammonium Sulphate—
 U.S.A., 75 t. 13½ c.
 Valencia, 426 4½
 Baltimore, 153 2½
 Nantes, 30 6½
Bichromates—
 Oporto, 5 t. 6 c.
Boiler Composition—
 Pt. Elizabeth, £30
Bleaching Powder—
 Calcutta, 51 t. 19 c.
 Bombay, 2 6
 Baltimore, 23 4½
Bone Meal—
 Guernsey, 4 t. 1 c.
Borax—
 E. London, £111
Castor Oil—
 Santos, £42
Coal Products—
Carbolic Acid
 Rotterdam, 6 t.
Pitch
 Bombay, 205 t. 8 c.
 France, 32
 Karachi, 1,490
 La Rochelle, 7
 Danzig, 380
Pitch and Tar
 Penang, £42
Tar
 Karachi, £76
 Bombay, 192
 U.S.A., 113
Tar Oil
 Stettin, 13 c.
Coal Tar Products (otherwise un-
described)
 Rotterdam, 17 t.
Copperas—
 Bombay, £78
Cream of Tartar—
 B. Ayres, £21
Dyestuffs—
 Extracts
 Canada, £408
 Antwerp, 52
 Fustic Extract
 Canada, £267
 Indigo Extract
 U.S.A., 3 t. 4 c.
 Logwood
 Canada, £43
Dyestuffs (otherwise undescribed)
 Calcutta, £36
Gelatine—
 U.S.A., £1,043
Guano—
 Guernsey, 24 t. 1½ c.
Iron Sulphate—
 Guernsey, 7 t. 10¼ c.

Lead Acetate—
 Calcutta, 3 t.
 Bombay, £65
Lead Nitrate—
 U.S.A., 19 t. 11¾ c.
Lime—
 Trinidad, 45 t. 10 c.
Linseed Oil—
 B. Ayres, 3 t. 9½ c.
 E. London, 2 8
 Rio de Janeiro, 3 8¾
 Pt. Elizabeth, 1 16½
 Trinidad, 1 13¾
Litharge—
 Johannesburg, £21
Magnesium Sulphate—
 E. London, £43
Manganese—
 Basle, 11 t. 7¼ c.
Manganese Oxide—
 U.S.A., 14 t. 19 c.
Manure—
 Guernsey, 35 t. 5 c.
 Derby Wharf, 11 11¾
Muriatic Acid—
 Bombay, £30
Paint—
 B. Ayres, £8
 Cuba, 88
 E. London, 107
 Havana, 38
 Singapore, 54
 Kingston, 89
Painters' Colours—
 Calcutta, £145
 Bombay, 217
 Antwerp, 34
 Trinidad, 27
Paraffin Wax—
 Antwerp, 13¾ c.
 Bilbao, 2 t.
 Arendal, £65
 Stockholm, 2
 Bordeaux, 65
 Jamaica, 22
Potassium Bichromate—
 U.S.A., £411
 Rotterdam, 196
 Bombay, 130
 Stockholm, 230
Rosin Oil—
 Rotterdam, £50
Sheep Dip—
 Rosario, £200
 B. Ayres, 1,250
Soap—
 B. Ayres, 11¾ c.
 Curacao, 5 t. 10
 Trinidad, 6
 U.S.A., 4 9
Sodium Bichromate—
 Bombay, 1 t. 13¾ c.
Tallow—
 Rotterdam, 4 t. 4 c.
Treacle—
 Brussels, 1 t. 10½ c.
 Bergen, 17 15
 Christiania, 13 14
 Stockholm, 241
 Sundswall, 12
White Lead—
 Oporto, 3 t. 17¼ c.
 Transvaal, £93

TYNE.

Week ending November 30th.

Alkali—
 Rotterdam, 9 t. 16 c.
 Trieste, 9 15
 Amsterdam, 44 5
Alum Earth—
 Antwerp, 1 t. 1 c.
Alumina—
 Antwerp, 2 t. 2 c.
Ammonium Carbonate—
 Trondhjem, 4 c.
Antimony—
 Rotterdam, 5 t.
 Skein, 2 c.
Arsenic—
 Odense, 1 t. 2 c.
 Copenhagen, 1 1
Barytes—
 Hamburg, 100 t.
 Rotterdam, 100

Blanc Fixe—
 Copenhagen, 7 t. 15 c.
Bleaching Powder—
 Gothenburg, 5 t.
 Antwerp, 80 9 c.
 Hamburg, 50 1
 Lisbon, 17 19
 Odense, 9 19
 Aarhus, 20 4
 Rotterdam, 48 7
 Amsterdam, 64
 Christiania, 14 14
 Terneuzen, 35 2
Borax—
 Aarhus, 4 c.
Castor Oil—
 Bergen, 7 c.
Caustic Soda—
 Gothenburg, 9 t. 16 c.
 Antwerp, 19 18
 Hamburg, 17 3
 Odense, 2 12
 Copenhagen, 2 18
 Trieste, 33
 Amsterdam, 1 9
Gelatine—
 Bergen, 1 c.
Litharge—
 Gothenburg, 1 t. 1 c.
 Hamburg, 6
 Amsterdam, 1 1
 Copenhagen, 1 2
Magnesia—
 Antwerp, 3 q.
 Hamburg, 5 c.
 Lisbon, 10

Paint—
 Antwerp, 2 t.
Soda—
 Svendborg, 69 t. 10 c.
 Rotterdam, 53 17
 Trondhjem, 5
 Amsterdam, 10 4
 Christiania, 7 13
Soda Ash—
 Hamburg, 9 t. 18 c.
 Trieste, 11 7
Sodium Sulphate—
 Christiania, 10 t.
 Westervik, 1,050
Sulphur—
 Gothenburg, 170 t.
 Christiania, 15
White Lead—
 Hamburg, 1 1 c.
 Copenhagen, 3

GOOLE.

Week ending November 27th.

Benzol—
 Rotterdam, 11 dms.
Coal Products (otherwise undes.)—
 Antwerp, 3 cks.
 Boulogne, 2 1 cs.
 Hamburg, 8
 Rotterdam, 102 3
Dyestuffs (otherwise undescribed)
 Hamburg, 162 cks.
Manure—
 Boulogne, 33 bgs.
 Dunkirk, 100
 Ostend, 200
Pitch—
 Antwerp, 418 t.

GRIMSBY.

Week ending November 30th.

Alkali—
 Dieppe, 5 cks.
Chemicals (otherwise undescribed)
 Dieppe, 6 cks.
 Hamburg, 15 dms.
Coal Products (otherwise undes.)—
 Antwerp, 2 cks. 1 dm.
 Dieppe, 142
 Hamburg, 1 30 btl.
 Rotterdam, 3
Colours—
 Antwerp, 1 ck.
 Dieppe, 10 1 cs.
 Hamburg, 13
 Malmo, 19 dms.

PRICES CURRENT.

WEDNESDAY, DEC. 11TH, 1895.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—

	£	s.	d.
Acetic, 25% and 40%	per cwt.	6/	9/-
Glacial	"	10/-	
Arsenic S.G., 2000	"	0	16 0
Fluoric	per lb.	0	0 3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
" (Cylinder), 30° Tw.	"	0	3 0
Nitric 80° Tw.	per lb.	0	0 1 1/2
Nitrous	"	0	0 1 1/4
Oxalic	nett	"	0 0 3 1/2
Phosphoric, 1750°	"	0	1 1
Picric	"	0	0 10
Sulphuric (fuming 50%)	per ton	15	10 0
" (monohydrate)	"	5	10 0
" (Pyrites, 168°)	"	3	0 0
" 150°	"	1	5 0
" (free from arsenic, 145°)	"	1	7 6
Sulphurous (solution) S.G. 1025	"	3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric	"	0	1 2
Arsenic, white powdered	nett per ton	15	15 0
Alum (loose lump)	"	4	12 6
Alumina Sulphate (pure)	"	4	12 6
Aluminoferic	"	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	"	0	1 3
" 880=28° B.	per lb.	0	0 3
" =24° B.	"	0	0 2 1/4
" Carbonate	nett	"	0 0 3 1/4
" Muriate	per ton	22	15 0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/-	37/-
" Nitrate	per ton	38	10 0
" Phosphate	per lb.	0	0 6 1/4
" Sulphate (grey) London	per ton	8	15 0
" (grey) Hull	"	8	13 9
Aniline Oil (pure)	per lb.	0	0 8
Aniline Salt	"	0	0 6 1/2
Antimony	per ton	30	5 0
" (tartar emetic)	per lb.	0	0 7
" (golden sulphide)	"	0	0 10
Barium Chloride	per ton	6	7 6
" Carbonate (native)	"	3	5 0
" Sulphate (native levigated)	"	42/6	to 65/-
Bleaching Powder, 35%	nett	"	7 0 0
" Lignor, 7%	"	3	10 0
Bisulphide of Carbon	"	13	5 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	"	15/-	to 30/-

Coal Tar Products and Dyes:—

Alizarine (artificial) 20%	nett per lb.	0	0 7 1/4
Magenta	"	0	3 9
Anthracene, 30% A, f.o.b. London	per unit per cwt.	0	0 11 1/2
Benzol, 90%	per gallon	0	2 4
50/90	"	0	2 2
Carbolic Acid (crystallised 40°)	per lb.	0	0 6 1/4
" (crude 60°)	per gallon	0	1 7 1/2
Creosote (ordinary)	"	0	0 1 1/2
" (filtered for Lucigen light)	"	0	0 2
Crude Naphtha 30% @ 120° C.	"	0	0 10
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	"	1	14 0
Solvent Naphtha, 90% at 160°	per gallon	0	1 6
" Lucigen " and " Wells " Oils	"	0	0 2 1/2
Copper	per ton	42	14 9
" Sulphate	"	16	5 0
" Oxide (copper scales)	"	41	10 0
Glycerine (crude)	"	30	0 0
" (distilled S.G. 1250°)	"	75	0 0
Iodine	nett, per oz.	0	0 7 1/2
Iron Sulphate (copperas)	per ton	1	5 0
" Sulphide (antimony slag)	"	2	0 0
Lead (sheet) for cash	"	13	7 6
" Litharge Flake (ex ship)	"	14	0 0
" Acetate (white " ")	"	21	10 0
" brown " ")	"	16	0 0
" Carbonate (white lead) pure	"	16	0 0
" Nitrate	"	19	0 0

Lime, Acetate (brown) (ex ship)	per ton	5	2 6
" (grey)	"	8	0 6
Magnesium (ribbon and wire)	per oz.	0	2 1
" Chloride (ex ship)	per ton	2	7 6
" Carbonate	per cwt.	1	17 6
" Hydrate	per ton	17	0 0
" Sulphate (Epsom Salts)	per ton	3	0 0
Manganese, Sulphate	"	17	0 0
" Borate	per cwt.	2	15 0
" Ore, 70%	per ton	3	10 0
Methylated Spirit, 61° O.P.	per gallon	0	1 9
Naphtha (Wood), Solvent	"	0	3 0
" Miscible, 60° O.P.	"	0	2 11

Oils:—			
Cotton-seed	per ton	18	0 0
Linseed	"	21	0 0
Petroleum, American	per gallon	0	7 1/2
Stearine	per ton	24	10 0
Phosphorus (yellow)	per lb.	0	2 2
" (red)	"	0	2 8
Potassium (metal)	per oz.	0	3 7
" Bichromate	nett per lb.	0	0 4 1/4
" Carbonate, 90% (ex ship)	per ton	17	5 0
" Chlorate	per lb.	0	0 4 1/4
" Cyanide, 98%	"	0	1 4 1/4
" Hydrate (Caustic Potash) 90%	per ton	24	15 0
" (Caustic Potash) 75/80%	"	21	10 0
" (Caustic Potash) 70/75%	"	20	0 0
" Nitrate (refined)	per cwt.	1	1 6
" Permanganate	per cwt.	2	17 6
" Prussiate Yellow	per lb.	0	0 8
" Sulphate, 90% (ex ship)	per ton	9	15 0
" Muriate, 80% (do.)	"	8	10 0
Silver (metal)	per oz.	0	2 5 1/2
" Nitrate	"	0	2 0
Sodium (metal)	per lb.	0	2 11
" Carb. (refined Soda-ash) 48%	nett per ton	4	15 0
" (Caustic Soda-ash) 48%	"	4	5 0
" (Carb. Soda-ash) 48%	"	4	0 0
" (Alkali) 58%	"	3	17 6
" (Soda Crystals)	"	2	2 6
" Acetate (ex-ship)	"	14	0 0
" Arseniate, 45%	"	11	10 0
" Chlorate	per lb.	0	0 4 1/4
" Borate (Borax)	nett, per ton	19	0 0
" Bichromate	per lb.	0	0 3 1/4
" Hydrate (77% Caustic Soda) (f.o.b.) net pr. ton	"	9	5 0
" (74% Caustic Soda)	"	8	7 6
" (70% Caustic Soda)	"	7	7 6
" (60% Caustic Soda)	"	6	7 6
" (60% Caustic Soda, cream) (f.o.b.)	"	6	10 0
" Bicarbonate	"	5	10 0
" Hyposulphite	"	10	0 0
" Manganate, 30%	"	0	7 6
" Nitrate (95%) ex-ship Liverpool	per cwt.	0	7 6
" Nitrite, 98%	per ton	30	0 0
" Phosphate	"	13	5 0
" Silicate (glass)	per ton	4	10 0
" (liquid, 100° Tw.)	"	3	10 0
" Stannate, 40%	per cwt.	3	2 0
" Sulphate (Salt-cake)	per ton	1	7 6
" (Glauber's Salts)	"	1	10 0
" Sulphide	"	8	0 0
" Sulphite	"	5	3 0
Strontium Hydrate, 100%	"	8	10 0
Sulphocyanide Ammonium, 95%	per lb.	0	0 4 1/4
" Barium, 95%	"	0	0 4 1/4
" Potassium	"	0	0 7
Sulphur (Flowers)	per ton	7	0 0
" (Roll Brimstone)	"	5	0 0
" Brimstone: Best Quality	"	3	12 6
Superphosphate of Lime (26%)	"	2	7 6
Tallow	"	23	10 0
Tin Crystals	per lb.	0	0
" English Ingots	per ton	65	10 0
Zinc (Spelter)	"	14	12 6
" Chloride (solution, 100° Tw.)	"	5	7 6

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ANNUAL SPECIAL ISSUE, 1896.

Double New Year Number of the CHEMICAL TRADE JOURNAL to be issued on January 18th, 1896, will contain a number of technical articles, in addition to the other special features. Advertisers are requested to consult our advertising further particulars.

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CURRENT TOPICS.

NITRATE AND IODINE.

THE progress of affairs connected with nitrate of soda, as shown by the state of the market and the reports of the companies that are now holding their annual meetings, appears to be following the lines which we have ventured to foreshadow in these columns from time to time, though we are certainly sorry that our somewhat pessimistical forecast should be so nearly fulfilled. Among all the reports of losses through the low price of nitrate, it was not unnatural to hope that the Lagunas Nitrate Co., at least, would afford a slight relief to the constantly depressing tone of the majority of the reports. The earlier days of the Company (and they do not number very many in all) were so very promising that it would have been surprising if the shareholders had not been sanguine. They were then told how flourishing the condition of their new company was, and 15 % dividends were freely talked of, and 20 % more than hinted at. Moreover, the chairman (Colonel North) said that he looked forward to paying an *interim* dividend of 10 %, and "guaranteed that he would give more than that when they got fairly started!" This information followed hard on the statement that there was no fear of the production being in advance of the demand. With regard to the latter point, the shareholders now know too well the value of the statement. When, however, at the beginning of this year, the *interim* dividend turned out to be 7½ per cent., it was doubtless thought by most that the reduction was due to carefulness of the directors, and probably the surmise was correct. It scarcely prepared them, however, for the announcement which has appeared this week, from which the shareholders now learn that for the present they must be content with the 7½ per cent. received last January, which at that time was thought to be but a foretaste of the good things to come. In a sense it was—only the good things are longer on the way than was expected. The report states that, despite the low prices ruling for nitrate, the company is still producing at a profit. This is about the only ray of brightness in the report. At the same time, the instructive report of the New Tamarugal Nitrate Co. reminds us that it would be very interesting to know how far this profit resulted from the rate of exchange, for the accounts of the New Tamarugal show that out of a profit of £16,000. in round figures £12,000. was due to the rise in exchange.

In spite of all the talk about what is being done to carry through the Combine, it seems about as far off as ever, and it must be the cause of considerable chagrin to those companies that have been compelled to stop producing, to learn that the output of nitrate and iodine is still being carried on by the Lagunas Co. at a profit.

Taking one thing with another, it is scarcely surprising that in some quarters the repeated failures to negotiate the

Combine are provoking criticism and breeding discontent. In considering this matter a knotty point has been brought before us, the value of which it is difficult to adequately judge. For a great many months there has been a copious parade of what were apparently earnest endeavours to effect a combination, and yet so far "it is not." Now, though it is quite as likely as not that we may be wrong, the possibility suggests itself that if prices were to fall so low that the Lagunas and one or two other companies could no longer make a profit the Combination would soon become *un fait accompli*.

It would seem, however, that the low price of nitrate and want of the Combination are not the only troubles that beset this industry. It is an open secret that with many companies when nitrate was not very remunerative iodine was the chief dividend-paying source of revenue. Owing to the high level at which prices have been so long and successfully kept by the combination of the Chilean producers, it has become possible to profitably produce iodine by the old seaweed process. This is now being done both here and in France, while it should be noted in passing that Japan has ceased to be a purchaser in this market, having presumably commenced to obtain her own supplies in the same way.

In consequence, the Chilean Combination intend, it is stated, to make some sweeping reductions in price so as to crush at once this reviving source of competition, to effect which rumours are afloat that resort will be made to the old excessively low price of 1½d. per ounce, as compared with the current quotation of 7½d. to 9d.

No doubt the iodine producers would think they were acting wisely in thus remorselessly exterminating their competitors, but fat dividends have been conjured up as phantom figures before the eyes of shareholders, and the note of warning that has been sounded in connection with iodine will, we fear, prove itself to be the note of the chanticler at which all these fascinating phantoms will vanish precipitately.

GOLD PRODUCTION IN THE RAND.

The output in the Witwatersrand for the past month has not quite come up to the record figures of a few months back, but the returns are sufficiently reassuring to remove any doubts that may have been created by the rather marked falling off in October. If not a record month, it is the highest total since August, when the record was established. As compared with October, the total of 195,218 ozs. shows an increase of 2,566 ozs., and 19,914 ozs. against November of 1894.

These figures are sufficient evidence that the cyanide process is not falling into disrepute, as it is largely due to the improvements in the treatment of tailings and slimes that the output in the Rand continues to grow so steadily.

Earlier in the year it was estimated that the total production for the year would reach, if not exceed, two and a quarter million ounces, and, after making very heavy allowances for a shortened output during this month, the prospects of the estimated total being reached are, to say the least, promising.

DIVIDING A RAY OF SUNLIGHT.—One of the most remarkable machines in the world is in the physical laboratory of the Johns Hopkins University at Baltimore. It is the only machine of its kind, and with its diamond point can rule fifteen thousand, forty thousand, or one hundred and twenty-five thousand lines to the square inch. The machine has been the object of curiosity on the part of the greatest of the world's scientists. The machine has for its object the ruling of lines on polished pieces of metal so as to form what is called a "grating." The "grating" is the most effective device for dividing into its component parts a ray of sunlight, the ordinary prism, which divides such a ray into the seven colours of the rainbow, being the simplest method.

LOW TEMPERATURE RESEARCHES

By H. GRIME.

(Continued from page 369.)

It is obvious that a formidable practical difficulty in the pursuit of low temperature research is the preservation of such ex-volatile liquids as oxygen, nitrogen, or air for a sufficient period of the determination of their properties. This difficulty is partially overcome by the device of allowing the vapour of the liquid to circulate round the containing vessel, or more simply use of double or triple jackets of carefully dried air. Inasmuch as even at very low temperatures billions of molecules in every square inch of the walls of the vessel each second, jackets cannot be perfect heat insulators. Dewar added great possibilities of low-temperature research by introducing the jacket as a means of protecting and preserving liquid gases. He showed experimentally that liquid oxygen, or ethylene surrounded by a vacuum jacket evaporates only about one-fifth as quickly as air jacket is used. Having checked the access of heat by the Dewar next sought to cut off the effect of radiation by an exterior of the tube containing the liquid gas. This further rate of evaporation by one-half. To impress the great advantage of the vacuum jacket, one cannot do better than mention that with a volume of 500 c.c., Professor Dewar has kept liquid oxygen for more than 30 hours in a vessel open to the atmosphere. The vacuum is produced as follows:—Mercury is boiled in the vessel under a pressure of about 10 m.m., and while the mercury is boiling the vessel is sealed in the blowpipe flame. This is to reduce the pressure within the vessel to less than one-millionth of an atmosphere at ordinary temperatures. But Professor Dewar is satisfied with this. The excess of liquid mercury is transferred to a small bulb blown upon the vessel before the original introduction of mercury. This small subsidiary bulb is cooled to -80° or -181° , and then it is fused off from the main vessel. As the tension within the whole of a closed space is determined by the temperature of the most strongly cooled portion, the pressure in the vacuum jacket is thus reduced to an amount estimated at 21 millionth of an atmosphere. Some experiments were made with the use of sulphur in the preparation of the vacuum vessel proved less satisfactory than mercury. In the *Philosophical Magazine*, vol. 38, p. 31, Dr. Bleekrode describes some experiments which show the great advantage of the vacuum jackets can be demonstrated readily. The walls of an air jacket protecting a tube contain dioxide and ether become covered with hoar frost in about 48 hours, while no deposit at all forms on the walls of a vacuum jacket surrounding a similar tube. The same superiority is shown in a different way, by placing a little phosphorus on the globe of two incandescent electric lamps of the same power, one of which is as usual, vacuum while the other contains some indifferent gas, hydrogen or coal gas. Although very little light comes from the filament in the second globe yet the phosphorus upon the outside of the globe long before that upon the ordinary lamp, in which the globe is glowing brightly.

The methods of attaining and measuring low temperatures for protecting cooled bodies from the influx of heat energy have been briefly described it remains to give a short account of the properties of certain bodies at these low temperatures. Of liquid sulphur dioxide and carbon dioxide little need be said. I may, however, mention a few of the facts respecting them, which are given in the literature. Both liquids are colourless. In this respect while most liquefied gases they differ from liquid oxygen which is blue, and from liquid nitrogen which is dark blue, and from chlorine which is of orange colour. Sulphur dioxide can be condensed at atmospheric pressure, or at ordinary temperatures under a pressure of about 3 atmospheres. It is denser than water, having a specific gravity of about 1.5 at -20.5° . Liquid carbon dioxide on the other hand is a little lighter than water; its specific gravity at -10° is .9951. Liquid carbon dioxide is remarkable for its large coefficient of expansion than any other known liquid, or gas; its specific gravity is .9951 at -10° , .9470 at -20° , .8266 at $+20^{\circ}$. Apart from its reaction with the alkalis, liquid sulphur dioxide possesses no very striking chemical properties. It reddens dry litmus paper. It conducts electricity badly, and as a liquid sulphur dioxide, exercises but little solvent action. Carbon dioxide is not suitable for a freezing agent, as it is in contact with other bodies by a protecting layer of solid carbon dioxide for refrigerating purposes it is, as we have learned already, most effective. Nitrous oxide is another substance which is now commercially in the liquid form. It may be remarked in passing that the commercial production of liquid gases has undergone no development of late. It is possible to obtain liquid sulphur dioxide, glass syphons, and liquid carbon dioxide, nitrous oxide, sulphuretted hydrogen, and, I believe, ethylene are sold in iron cylinders.

Nitrous oxide is liquefied by a pressure of 30 atmospheres at 0°, or at -88° under ordinary atmospheric pressure. Its specific gravity at 0° is '9369. Like liquid carbon dioxide, it has a higher co-efficient of expansion than the gas. One volume of the liquid at 0° becomes 1'1202 volumes at 20°, as against 1'0732 in the case of the gas.

(To be continued.)

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Improvements in the Manufacture of Sodium and Potassium. J. A. Kendall. 23,045. December 2.
Extraction of Gold, etc., from Slimes and Tailings, with Apparatus, and Solvents for the same Purpose. H. R. Lewis and C. Gelsthorp. 23,052. December 2.
Treating Sewage and Obtaining Valuable Products. J. Hargreaves. 23,064. December 2.
Preventing the Putrefaction of Blood. F. V. Friderichsen. 23,066. Dec. 2.
Preparing Peat as a Fertilizer. W. T. Forbes. 23,068. December 2.
A Protector for the Eyes of Firemen and others in Smoke and other Noxious Gases. J. Morris, jun., and T. Wilson. 23,095. December 3.
Electrical Deposition of Zinc. R. Heathfield and W. S. Rawson. 23,097. December 3.
Purifying Oil Extracted by Solvent from Linseed, etc. W. T. Whiteman. 23,106. December 3.
Improvements in the Manufacture of Portland and other Cement. E. H. Hurry and H. J. Seaman. 23,145. December 3.
Separating Oleaginous Matters from Solvents. J. F. Lester and A. Riccio. 23,159. December 3.
Improvements in Woven Belting. F. Reddaway and F. Reddaway and Co., Ltd. 23,198. December 4.
Manufacture of Varnish. C. W. Jurany. 23,202. December 4.
Acid and Alkali Resisting Paint. A. J. and T. G. Dale. 23,207. Dec. 4.
De-Liming Hides in Tanning. A. Brogard. 23,310. December 5.
Improvements in Metallic Sodium Fluxes. 23,342. December 5.
Extracting Grease from Cotton Waste, etc., and Recovering the Solvents. J. W. Mitchell. 23,429. December 6.
Improvements in and Apparatus for Refining Petroleum, etc., with Fuming Sulphuric Acid. J. V. Johnson. 23,436. December 6.
Filtering and Purifying Oil. T. J. Carter and S. Boswell. 23,469. Dec. 7.
Apparatus for Producing and Storing Acetylene Gas. G. Trouvé. 23,521. December 7.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

Improvements in Apparatus for Use in the Decomposition of Common Salt in the Production of Sulphate of Soda, or for Analogous Purposes. W. Thomson, engineer of the United Alkali Co., Ltd., and P. J. Worsley, director of the said company, both of Netham Chemical Works, Bristol. Eng. Pat. 21,945. Nov. 13, 1894.

The plant provides for the continuous decomposition of salt with sulphuric acid, and claims to produce hydrochloric acid gas in a continuous stream, nearly free from water vapour, so that it can be used, without further drying for the manufacture of chlorine, in processes such as Deacon's, for which dry hydrochloric acid is required.

As a general rule, two covered decomposing pots are used to each roasting furnace. These pots are fitted with stirers and automatic charging apparatus, by which the supplies of salt and vitriol are regulated so as to keep the vitriol in excess. A gas outlet is provided, while the charge, which remains sufficiently liquid, flows through a pipe above the level of the agitator into the roasting furnace.

This furnace is described in patent 21,946/94. In brief, it may be said to be a round, muffle furnace, heated above and below, the revolving top carrying stirers and ploughs which mix and gradually move the charge towards the outlet where the finished product is continuously and automatically discharged. As the charge from the decomposing pots passes into the furnace more salt is added, by a conveyor-worm, in proportion to the excess of acid added in the decomposer. There are two drawings.

Improvements in and Relating to Thickeners or Vehicles for Colours, Mordants, and the like. W. W. Horn, of the firm of Horn, Son, and Co., 151, Strand, London. (Communicated by W. Maybury, Los Angeles, California, U.S.A.) Eng. Pat. 22,276. Nov. 17, 1894.

The chief disadvantage of the gum, flour, and starch usually used in printing, finishing, and filling textiles and wall papers, etc., is that they are acted upon by the acids and alkalis (the addition of which is

essential to the process), being thereby rendered either too thick or too thin. Also chromic acid and permanganate of potash cannot be used in calico printing with such thickeners, which, being of an animal or vegetable character, are oxidized at the expense of these chemicals, rendering them worthless. This invention provides a universal thickener in the shape of a hydrated silicate of alumina, which, in the crude and partially-hydrated state, is found largely in New Zealand and the Western States of North America. It is known as soap rock or clay, and styled by the patentee "mineral tragacanth."

This mineral contains oxide of iron and gangue as impurities, and therefore has to be prepared as follows:—

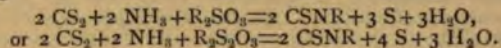
After being broken up sufficiently small, it is placed in a vat with a perforated bottom, when hydrochloric acid of 1° Tw. is poured on and allowed to percolate through the mass, removing the iron at the same time. The mass is then washed with water until free from acid. It is next placed in a tank of about ten times the capacity of the clay being treated, and five pounds of cold water added for every pound of clay. In from three to five days this water is absorbed, swelling the clay to about seven times its original bulk, and forms a fine, plastic paste of a greasy nature, which can be reduced to any desired consistency with more water. When the clay is to be used for finishing or filling, treatment with a solution of alum of 0.5° Tw. is substituted for the hydrochloric acid method, thus obtaining a much whiter paste. The advantages claimed for this mineral thickener are that it does not skin on the top or grow thin with age, does not mildew or ferment, has no effect on the colours with which it is mixed, and needs no "cooking."

An Improved Process for the Preparation of Sulphocyanides. Dr. A. Goldberg, 46, II. Mühlenstrasse, chemist, and Dr. W. Siepermann, 116, Königstrasse, Elberfeld, Germany. Eng. Pat. 993. Jan. 15, 1895.

In the preparation of sulphocyanides from carbon disulphide and aqueous ammonia a certain amount of sulphuretted hydrogen or sulphur is produced as a bye product.

The patentees propose to prevent the formation of the objectionable hydrogen sulphide and obtain the sulphur in a commercial form by adding alkaline sulphites or hyposulphites. Instead of these, free bases could be used if in place of the ammonia a corresponding quantity of the sulphite or hyposulphite of this base was employed, as these salts are instantly decomposed by the free bases.

The following typical equations show the preparation from alkaline salts:—



It will be noticed that not only is half the S from the CS₂ set free, but also that in the sulphite or hyposulphite. The reaction takes place under pressure at 100° C., but is hastened by raising the temperature to 120°–130° C., and by stirring, in the case of difficultly soluble sulphites or alkaline earths. Impurities arising from sulphates in the hyposulphites, &c., can be removed by an equivalent of barium sulphocyanide. The disulphide of carbon need not be pure.

Vegetable Fibre Soap. E. Ubrig, 11, Ahorn Allee, Westend, by Berlin. Eng. Pat. 18,017. Nov. 16, 1895.

The mechanical cleansing power of soap is usually increased by the addition of a mineral substance, such as pumice stone or kieselsuhr. In this case the object is to use vegetable substances, such as wood millings, sawdust, or ground wood, which become more thoroughly impregnated with the soap, and also unite more intimately with the chemical constituents of the same. It is claimed that medicinal properties for use in the treatment of skin diseases can be imparted by choosing the wood of suitable plants, and that while excellent for removing adhesive substances, this soap can be used for washing linen, &c. When very finely disintegrated it is stated that the soap can be used in the preparation of fine toilet soaps and dentifrices.

An Improved Disinfectant Compound which may be used for Dipping Sheep, also as an Antiseptic for Purifying, Disinfecting, and General Detergent Purposes. J. L. Wade, 28, West Kensington Gardens, London. Eng. Pat. 18,223. Nov. 16, 1895.

To prepare the compound described in the title, 40 parts of creosote, as produced at the gas works, and 20 of pulverised rosin are placed in an ordinary jacketed boiler, provided with an agitator, and steam turned on. When this mixture is melted, five parts each of cresylic and oleic acids, 20 of caustic potash testing 25° Bé (42° Tw.), and five parts of eucalyptus oil and naphthalene respectively are added. The heating is continued until the ingredients are thoroughly saponified and incorporated. When finished the compound is soluble in water in any proportion. The quantities may be subjected to variation for special purposes.

Official Memoranda.

(From the Board of Trade Journal.)

INFLUENCE OF JAPANESE INDUSTRIES ON EUROPEAN IMPORTS.

In a report on the foreign trade of Japan during 1894, published in the "Deutsches Handels-Archiv," the productive capabilities of the different industries of Japan are discussed with special reference to their influence on German export trade. With reference to the cotton trade of Japan, this report says that as soon as German manufacturers of textiles recognise the influence of this branch of Japanese industry on the markets of the far east they must devote themselves to the task of cultivating a special market for their woollen goods.

Japanese products are also, on account of the cheaper cost of their production, displacing German goods on the markets of Eastern Asia in the following groups of articles:—Matches, paper, soap, beer, furniture, umbrellas, glass goods, lamps, leather goods, instruments, and machinery.

Regarding glassware, Japanese industry competes only in the commoner sorts, although many kinds of fine glassware are produced in Osaka and Tokio; the cheapness of production prevents the importation of the foreign article. But glass goods will never attain in Japan the importance they have in Europe, as the great mass of the people use porcelain and paper instead.

In the case of the manufacture of soap in Japan, some compensation is afforded by the increased imports of caustic soda, palm oil, &c., and German manufacturers are exhorted to do their best to compete with Great Britain in the caustic soda trade.

As a great iron industry will hardly be developed in Japan, an increase in the imports of metals, metal goods, machines and parts, as well as of railway materials, may be looked for, and also in the case of woollen goods, drugs, pharmaceutical preparations and dyes; German imports are not likely to suffer from the industries of Japan.

IMPORTS OF TANNING MATERIALS INTO GERMANY.

In a petition by the Oppeln Chamber of Commerce asking the Bundesrath to withhold its consent to a Bill proposing to levy an import duty on quebracho wood, it is stated that the lower prices of oak-bark during the last ten years are not to be attributed only to the increased importation of quebracho wood and the consequently diminished use of oak-bark. On the other hand, statistics show that in spite of the use of quebracho wood and other foreign tanning materials the importation of oak-bark into the German Empire had steadily increased and has almost been doubled within the last 13 years. In the five years, 1880 to 1884, about 569,000 metric centners were imported; from 1885 to 1889, about 782,000, and between 1890 and 1893 about 948,000 metric centners. In 1892, 1,724 tons of bark and tan were imported into Upper Silesia from Austria and Russia and 118 tons from Germany; in 1892 these figures become 2,051 and 248 respectively, and in 1893, 2,123 and 277½.

These statistics show to what an extent the tanneries of Upper Silesia are dependent on foreign bark and tan; and as exemption from import duties is guaranteed to oak-bark and other tanning materials for a series of years in most of the countries which have commercial treaties, the German owners of plantations would, after the imposition of a duty on quebracho wood, still be dependent on the foreign prices of tanning materials. The home markets are therefore dependent on the foreign, and, as the conditions of sale and delivery are considerably more favourable abroad than those usual with the owners of German plantations, the tanneries naturally prefer the foreign to the home product, when prices are the same. In Germany the oak-bark is usually sold to the consumer on the tree, and according to the conditions of purchase the buyer has to pay workmen to remove the bark from the tree and dry it, whilst foreign producers deliver the bark carriage paid, guaranteed free from damp, sorted and cut. But even if the imposition of a duty on quebracho wood were to bring the proprietors of oak woods the improvement they hope for in the price of their produce, the leather industry would on the other hand suffer severely from the decreased importation of quebracho wood. A few years ago considerable quantities of the cheaper kinds of leather, such as Valdivia leather, were imported from abroad, and considerable harm was consequently done to the home leather industry; but by the use of the quebracho tanning process the cheaper kinds of leather can now be produced in Germany itself. In consequence of their proximity to the chief foreign woods where oak-bark is produced the tanneries of Upper Silesia use no quebracho wood in their operations, but only oak-bark; in spite of this the majority of Silesian tanners see disadvantages in the imposition of a duty on quebracho wood and its consequent appreciation, as they would then have to meet the severer competition of foreign countries in place of the home competition. For after the

introduction of such a duty the German consumption of the cheap kind of leather would again be met by the foreign supply.

BONE DUST AS A FERTILIZER.

In a pamphlet on the profitable use of bone dust as a fertilizer so largely used for this purpose in New Zealand, Dr. Ullrich says:—(1.) Light sandy soils and also heavy marls and clays may profitably be treated with bone meal, provided they are not poor in lime. Sandy soils poor in lime must previously be marled, and marls and clays similarly deficient may be limed with lumps of lime. Otherwise the bone meal will decompose too slowly to have much effect on the first crop. (2.) The presence of humus is essential. Experiments at Darmstadt have shown that steamed bone meal, three times as good a result on soil rich in humus as in similar soil poor in humus. This depends on the presence of bacteria and organic acids in this component of soil. (3.) Neither the nitrogen nor phosphoric acid of the bone meal becomes available until its particles are thoroughly mixed with the soil. It is, therefore, desirable to plough when the stubble is broken up and to harrow it well in. Ploughing should be preceded by cross-harrowing. (4.) The conditions as regards moisture are of great importance. When bone meal is used in summer its particles naturally swell up very much under the influence of a warm penetrating rain. They also retain their moisture well, keeping the soil damp, and breaking down more easily into soluble compounds. (5.) It consequently follows that an interval of time should elapse between the time of sowing the meal and the time of the crop. Exceptions to this may occur in badly drained soils poor in lime. (6.) The application of potash manure in conjunction with bone meal is very desirable. In many cases the lack of available potash in the soil prevents the phosphoric acid in the bone meal acting. It also appears that the sulphates and chlorine compounds, kainit and carnallite promote the working of the meal. (7.) Bone meal deserves to be much more generally used in gardens, where a manure is employed too exclusively. Extremely good results have been attained in various departments of gardening by applying bone meal, blood meal, guano, and superphosphate. Bone meal, in all events, may very well be employed in flower, fruit, and vegetable gardens, and, applied in early spring, is a very excellent top-dressing for parks and lawns.

ITALIAN PRODUCTION OF TARTRATES.

A report, dated November 13th last, has been received at the Foreign Office from Mr. E. Neville-Rolfe, Her Majesty's Consul at Naples, from which it appears that the production of tartaric materials in Italy for the 12 months, 1st October, 1894, to 30th September, 1895, amounted to:—

	Quantity.	Value.
	Tons.	£
Half-refined tartar	1,166	61,215
Vinaccia argols	2,301	109,350
Crude argols	2,526½	93,480
Winelees	2,271½	34,075

Showing a total production of 8,265 tons, valued at £298,070.

The exports to the United States reached 4,211½ tons; to Great Britain, 869 tons; to Germany, 783 tons; to France, 178½ tons; to other countries, 2,223 tons.

WOOD-PULP VIA THE CANAL.—During the past few weeks the importation of wood-pulp from the Baltic has been very much below the average, and the large stocks which had accumulated at the docks have been considerably reduced, the greater portion having gone to consumption. A large consignment was discharged on Tuesday in 8 Dock by the Wilson line steamer *Panther*, from Fredrikstad, another cargo is now due by the steamer *Malachite*, from Christiania, which is reported as having passed Dunnet Head on Sunday. The parcels from Gefle have been fixed by Messrs. Stott, Coker, and Co., and the steamer *Starlight*, 927 tons, and Messrs. Felber, Jucker, and Co., and the steamer *Elffe*, 742 tons. From Drammen two steamers, the *Gri*, 210, and *Frigga*, 212 tons, have been fixed; from Christiania, the *Odd*, 506 tons, and *Odin*, 429 tons; and from Sannesund the *Cro*, 362 tons, all with wood-pulp for Manchester. A large cargo has been engaged by the steamer *Faerdelander*, 983 tons net register, Skien. Messrs. Bailey and Leatham's steamer *Essex*, 884 tons, is in Manchester to load for Reval, having sailed from Portland for the Canal on Monday, and will be followed by the Wilson line steamer *1,700* tons cargo, on the 29th inst. to Reval and Riga. The two firms are maintaining a joint service between Manchester and the Baltic, calling at Liverpool.

of Companies.

EXPLOSIVES COMPANY, LIMITED.

The meeting of this company was held last night at the Hotel, having been called by the Board in consequence of certain shareholders, who desired an adjournment of the company.—General Sir John Stokes, and the directors were strongly of opinion that the adjournment was at least inopportune, as there was no probability of its would weaken their hands; but the directors were overruled by the shareholders at the office.—The motion was carried forward by Mr. Dudley Smith for the appointment of a committee, and this was seconded by Mr. Brodie Hoare, and several other shareholders spoke in favour of the motion. Mr. P. H. Colomb (director) declared that the directors were themselves ready to meet a committee of inquiry, and Mr. Brodie Hoare and those acting with him were ready to go into the company's affairs. A day was appointed for Mr. Duncan to meet their manager, when a circular was sent to the shareholders hostile to the Board. He agreed that any adjournment at that time was inopportune.—The motion was met by the proposal of an amendment that the meeting be adjourned *sine die*. The amendment was seconded by Mr. Horsman, and carried, on a show of hands, by a majority of 14. A poll was taken, with the following result:—In support of the chairman's amendment—In person, 26 shareholders; by proxy, 71 shareholders, 4,125 votes; total, 4,151 votes. In person, 8 shareholders, 1,688 votes; by proxy, 4,546 votes; total, 6,214 votes. Majority in support of amendment, 3,467.—The Chairman having declared the meeting adjourned.

NAS NITRATE COMPANY, LIMITED.

In their report for the twelve months ended June 30, 1906, the balance was £82,550., out of which sum a dividend of 10s. per share was paid in January last, and it is proposed to carry forward a balance remaining of £17,164.

CHEMICAL MANURE MANUFACTURERS' ASSOCIATION.

Annual dinner in connection with the twentieth anniversary of the Association was held recently at the Hotel Victoria, North-avenue, W.C., under the presidency of Mr. Alex. Cross, letters of regret were read from Mr. Cuthbert Quilter, M.P., Malcolm, M.P., and Mr. F. W. Wilson, M.P.

Mr. Chamberlain, in his speech, pointed out that a vast change had taken place in the last 20 or 30 years in the use of artificial fertilisers, for there used to be little done in the employment of such renova-
tion of the soil beyond some slight and experimental use of guano, and the importation of speculative cargoes in small quantities, this country now imports nearly a million tons of phosphates, Germany 800,000, France 750,000, Belgium 300,000, Denmark and Holland 200,000, the United States 1,000,000—or, together, four million tons, of the value of £10,000,000. sterling. In addition to these phosphates were used to the value of £8,000,000; ammonia to the value of £2,500,000., and other chemical fertilisers to the value of £1,000,000.—making a total expenditure in chemical products for the land amounting to between £22,000,000. and £23,000,000. Mr. Chamberlain stated that the trade was now distressed, but the lowering of prices would result in larger consumption and renewed prosperity. In the evening, Mr. Shephard drew great encouragement from the Colonial policy of Mr. Chamberlain, which was opening up new markets, and would revive every industry; and Mr. Tyrer, the President of the Society of Chemical Industry, spoke emphatically of the need for sound scientific training on the part of the farmer himself, and on the part of those who had to supply his wants. He stated that he was at present engaged in investigations with the view of discovering whether there was any truth in the frequently-advanced theory that chemical industries were better and more intelligently managed on the Continent than at home, and he hoped to ascertain the result at the result in the course of next year.

belcker, the well-known analyst of the Royal Agricultural Society of England, urged that the great stumbling-block in the way farmers was the want of sufficient capital, and, as an illustration to the ravages of the finger-and-toe disease as due to lack of capital. Farmers were unable to manure their land and especially they were unable to use sufficient lime, and became so impoverished that disease was the result, for land, man being, required to be kept well and strong to be able to encroachments of forms of disease which a state of health successfully defy.

In the course of the evening Mr. Algar, of Plymouth, proposed the health of the newly-elected president, Mr. Manning Prentice, of Stowmarket.

Mr. Manning Prentice replied in a highly humorous vein, much amusement being caused by the fact that he took a most pessimistic view, and yet with all the gloomy forebodings which filled his speech, he appeared extremely cheerful and to fire off these shots in a perfectly happy frame of mind. He pointed out that the great industry represented by the Association was of prime importance to the Kingdom, because it lay at the basis of all successful agriculture. They were engaged in preparing the raw material and supplying the mineral food which was by the farmers worked up into organic compounds and foods for man and beast. He looked forward with much regret to a period of low prices, and did not believe that either agriculturists or chemical fertiliser makers ought to venture to expect any great improvement in the money value of the article they produced. He thought also that there was a parallel case between agriculture and their own trade in this respect, that there were certain lands which had not been tilled, but which came into cultivation when wheat was at an abnormally high figure. These lands would of necessity go out of cultivation when the prices of wheat fell below the normal figure. In the same way there were many places where no one would now erect chemical works, but where in times of great prosperity it paid to put up these chemical works, and he believed the time was not far distant when many of them would have to be abandoned. This was doleful news for those who would be crushed out by the inevitable competition, but would result beneficially for the few who survived. On the whole this process of the survival of the fittest must be welcomed as being beneficial for the people at large, if very unfortunate for those who happened to own unproductive land or unproductive factories.

IMPORTS AND EXPORTS FOR NOVEMBER.

The Board of Trade returns for last month were distinctly satisfactory. The imports of nitrate of soda were heavy, and there was a large increase in the quantity of tallow from Australasia. Though the exports of alkali are lower in value and quantity, yet the total value for chemical products shows an increase of £29,700. For this advance coal products, painters' colours, and soap are largely responsible.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

ARTICLES.	Quantities.	
	1894	1895.
Margarine Cwt.	84,914	88,794
Copper Ore and Regulus..... Tons.	12,679	18,726
Pyrites..... "	39,298	50,734
Tin Cwt.	82,510	86,247
Alkali "	19,698	17,767
Brimstone "	19,336	48,078
Dyes, Coal Tar £.	60,083	75,291
Saltpetre Cwt.	23,827	22,035
Petroleum Gall.	16,839,555	21,721,489
Turpentine Cwt.	68,599	33,018
Guano Tons.	3,350	2,112
Nitrate of Soda "	8,813	11,983
Paraffin "	69,140	89,993
Rosin Cwt.	61,469	60,165
Tallow and Stearine..... "	115,307	249,467
Oil Seed Cake Tons.	21,681	32,077
Wood Pulp..... "	27,592	32,198

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

ARTICLES.	Quantities.	
	1894.	1895.
Alkali Cwt.	721,026	644,136
Cement Tons.	26,283	31,469
Coal and Coke "	2,699,643	2,740,165
Copper, all kinds Cwt.	83,018	111,122
Iron and Steel Tons.	235,042	253,284
Chemical Manures "	16,547	19,723
Oils, seed "	4,415	3,982
Salt "	52,079	56,304

GOLD RECOVERY BY THE MACARTHUR PROCESS.—57,500 oz. of gold have been recovered at the Rand, and 8,000 oz. in other districts—total, 65,500 oz. during November—by means of the MacArthur-Forrest cyanide process. The October total was 61,500 oz.

SOCIETY OF CHEMICAL INDUSTRY.

NOTTINGHAM SECTION.

The second meeting of the session of the above Society took place on Wednesday, December 11th, when, by special invitation of Dr. Clowes, the members assembled at his residence, Waterloo-crescent, Nottingham, to meet the president of the society, Mr. Thomas Tyrer, F.I.C., F.C.S. The attendance was good, and amongst those present were Messrs. L. Archbutt, F. J. Kempson, J. M. C. Paton, S. J. Pentecost, G. J. Ward, J. T. Wood (hon. sec.), &c. The Chairman of the section (Mr. F. J. R. Carulla), in opening the meeting, referred to the beneficial effect that the system of visiting the sections inaugurated by Mr. Tyrer might have on their future. He also testified to the value of the ever-ready assistance that Dr. Clowes was willing to give to the section, concluding with the request that the president should honour the meeting by taking the chair on that occasion. The President having taken the chair, Dr. Clowes gave a short history of the section since its formation in 1885, and pointed out that Mr. Tyrer had already been amongst them several times, when secretary of the London section, having afforded valuable help at a critical period. Dr. Clowes then read a paper on "The composition of the limiting explosive mixtures of combustible gases with air," in which he gave an account of recent investigations that are of great value in the study of the causes and means of prevention of colliery explosions. The paper was illustrated by experiments, and a discussion followed, in which the president and Messrs. Kempson, Wood, Ward, and others took part. The President, in a concluding speech, gave a most interesting account of his recent visit to the New York section, in which he was accompanied by Mr. Mond (of Brunner, Mond, and Co.), the foreign secretary of the Society. He laid special stress on the industrial progress being made by the Americans, and contrasted the remarkable circumstances that already nickel steel armour plates are being made in that country for the Russian navy, whilst we in the United Kingdom are engaged in a shipbuilding dispute that may greatly affect our supremacy in that industry. The address, which lasted nearly an hour, was listened to intently, Mr. Tyrer having a peculiarly engaging style that secured the attention of every listener. The meeting terminated after both the president and Dr. Clowes had been sincerely thanked.

A WARNING TO MANUFACTURING CHEMISTS.

A PECULIAR action came before Mr. Justice Day at Birmingham on Thursday. Plaintiff, Elizabeth Harrop, brought an action against Messrs. Wyleys, manufacturing chemists, Coventry and Birmingham, and James Brown, chemist, Hockley Hill, for negligently poisoning her husband. Mr. Harrop had been told by his doctor to take phenacetin for headache, and he went on the 24th of June to Brown's shop, and asked for a 10-grain dose of the drug. Brown gave him a dose of what appeared to be phenacetin, and in an hour Mr. Harrop was dead. Inquiries led to the discovery that the bottle from which Brown had taken the drug contained nearly 30% of strychnine, and that Mr. Harrop had, therefore, taken between three and four times as much of that poison as would cause death. Some time ago Brown ordered 40zs. of phenacetin and 10z. of strychnine from Messrs. Wyleys, and he received a 10z. bottle containing pure phenacetin and a 40z. bottle containing, as he found out after Mr. Harrop's death, a mixture of phenacetin and strychnine. How the poison and the drug got mixed is still a mystery. When the case for the plaintiff was concluded a settlement was arrived at, Messrs. Wyleys agreeing to pay the plaintiff £2,800, and taxed costs, Brown paying his own costs. Soon after receiving the bottles from Messrs. Wyleys it appeared that Brown had made up some of the contents of the bottle labelled "strychnine" into packets of rat poison, but he received several complaints as to the inefficacy of the poison. Four days prior to Mr. Harrop's death a lady named Banfield sent for some phenacetin powders, and he delivered her six. As he expected another order from her, he made up six more and placed them on one side. When he found that Mr. Harrop had been poisoned it occurred to him that the drug which had proved fatal in that case was the same as that which he had supplied to Miss Banfield, and he sent his daughter to get the powders back. She obtained four, and was told that Miss Banfield had died within an hour of taking one of the others, the sixth having been opened by her medical man. The doctor, however, never suspected poisoning, because Miss Banfield had been suffering from cancer for some time, and he attributed death to that cause.

FATALITY AT A DYEWORKS.—An employé engaged at the mills of Messrs. Higginbotham, South Side, Glasgow, accidentally fell into a tank of boiling acid dye on Monday. He was at once rescued, but was fatally injured.

Correspondence.

* * We do not hold ourselves responsible for the opinions expressed by our correspondents.

THE PRICE OF CRUDE NAPHTHA.

(To the Editor of the Chemical Trade Journal.)

SIR,—With regard to your quotations for 30% crude naphtha and benzol, I am very much astonished to see that, although 90's benzol have seemingly risen to about 2s. 4d., 30% crude naphtha is variously quoted at only from 6d. to 9d. in different papers.

Taking crude naphtha at 6d. and 9d., and 90's benzol at 2s. 4d., this shows a difference of from 1s. 10d. to 1s. 7d. in these two quotations between crude naphtha and 90's benzol, whereas the margin during the last two years has, according to my information, scarcely been more than 8d. on an average.

The manufacturer of 90's benzol who continues to buy, according to the recent and present quotations of the chemical journals, say from between 6d. and 9d., does therefore now make a profit of, say about three times as much in making it into 90's benzol.

This state of thing is very unsatisfactory for those who, as I know in one certain case, have made contracts based on the quotations of your own valuable paper and two other chemical journals of standing. Naturally the expectation in basing the contract in question was that the margin between the 30% crude naphtha and 90's benzol would remain at about the usual average level.

Can you or any of your readers explain how it is that this extraordinary state of things has come about, and would it not, in the interests of the trade, be better to entirely cease quoting 30% crude naphtha, if, as it would seem from information kindly vouchsafed to me from different sides, it is almost impossible to get reliable quotations for 30% crude naphtha?—Yours truly,

HENRY SIMON.

P.S.—Whilst you quote 9½d. to 10d. for crude naphtha, some other papers still quote 6d.—that is 50 per cent. less than the actual price. Such variations are exceedingly awkward.

THE STATE OF THE CHEMICAL TRADES.

TRADE is better with chemical works in the Tyne and Wear districts, and still keeps good with the white lead works. The cement trade is dull. There is no change in the salt industry at Middlesbrough. Papermakers are busy at Darwen and district. In the Leeds district paper mills are also well occupied, while pulp and paper workers at Barrow are well employed. There is no change in the chemical industry in St. Helens since last report. At Middlesbrough and Winsford the salt trade has been somewhat depressed, but the chemical industry in the former neighbourhood has been normal. There is an improvement with seed crushers at Hull and district, and oil millers at Selby are busy. The paint, varnish, and colour works are only moderate. In these trades at Wolverhampton full time is being worked. Galvanisers and enamellers in the same neighbourhood are busy. Soapmakers round Leicester and Northampton are fairly well employed. In Bristol and district glass bottle makers are quiet, but curriers and tanners are busy. The chemical and copper and silver extracting works at Swansea are still dull, but fuel works are busy, particularly at Cardiff and Newport.

Trade Notes.

THE CASTNER-KELLNER ALKALI CO.—We understand that this company has chosen a site for their works at Weston Point. The area of the site is stated to be 47 acres.

PRICE OF BENZOL IN GERMANY.—The Munich Gasworks, under the initiative of Dr. E. Schilling, has been trying to secure an agreement with the German benzol producers to supply all the South German gas works with benzol for five years at a price not to exceed certain limits. These attempts have not succeeded, for the benzol makers wanted a free hand; but the agreement has been struck that the South German Gasworks are to have, for the year 1895-6, as much benzol as they require at a price not to exceed £15. 4s. 3d. per ton weight. For the future, it is thought, there is no reason to apprehend any undue rise in prices, for there will always be the competition of enriching coal and of the English benzol market to fall back upon. The Munich works now makes 11,460 cubic feet of gas per ton English, by forcing the temperature, and then the product is enriched with benzol. One per cent. of air is added for purifying purposes, with the result that the boxes have only had to be opened one-third as often. The maximum consumption of benzol is 4'343 grains weight per 1,000 cubic feet.

ER PRIZE FOR THE DISCOVERY OF ARGON.—The Academy has awarded the Lecomte prize of 50,000 francs to Professor Lord Rayleigh for their researches leading to the discovery of argon. The prize was founded as a reward for the author or authors of a new and important discovery in chemistry, physics, mathematical or medical science.

TRADES INQUIRY.—The Dangerous Trades Committee of the Local Government Office met at Manchester on Tuesday, and during the preceding days of this week visited works in this district and elsewhere relating to matters affecting the health and safety of persons employed in numerous trades scheduled for inquiry. The inquiries were conducted in private. Particulars of the members of the committee and its scope were given in the *Journal* No. 444 p.

THE COMPETITION INCREASES.—In the course of a debate in the House of Commons on the subject of a pending resolution for the appointment of a commission to investigate the needs of labour and industry, Mr. Stewart said Oriental competition had increased to an extent. Japanese agents were, he said, now in the United Kingdom selling bicycles, matches, doors, window sashes, cooperage, and other wearing apparel at fifty per cent. below the prices of the same articles made in the United States.

FOR BLACK SMOKE.—At the Manchester City Police Court, on Monday last week, Charles Macintosh and Company, india-rubber makers, Lower Cambridge-street, were fined £10, and costs for nuisance by emitting black smoke from a chimney of their works.

Alexander Thomson, brass founder, Temple-street, was also fined £10, and costs for a similar offence. Orders of abatement were made in other cases.—Mr. A. T. Rook prosecuted on behalf of the Corporation.

A FATAL ACCIDENT AT BARROW.—A terrible accident occurred at the Barrow wire works recently. The wind was blowing a gale, and as the works are open it is supposed that the wind caught something on the roof and that it fell upon a large engine in the fly-wheel, weighing 18 tons, suddenly burst and parts of the roof girders, and breaking them caused the roof to fall and crash on the top of the men without the slightest warning. Wreckage was cleared away it was discovered that a man, Alfred Parsons had been killed, and that no fewer than ten others had been injured.

RESEARCHES FOR ELECTRO-PLATING BATHS.—Metallic lactates are recommended to electro-platers by Dr. Jorda, in a communication to the German Electro-Chemical Society. He affirms that lactic acid is an excellent solvent in electro-plating baths, and yields good, adherent metallic deposits. He reports that he has succeeded in obtaining lactate baths, coatings of copper and brass, of varying shades, and of zinc on iron and copper; and of iron on silver lactate yields a pure white coating of silver on amalgam, which takes a high polish.

REPORT ON THE FLASH POINT OF OIL.—At a meeting of the Manchester and Salford Sanitary Association, held on Monday last, the secretary, Mr. Fred Scott, Brazen-nose-street, Mr. S. L. Helm in the chair, it was announced that Dr. J. Leech, M.D., had accepted the office of chairman of the committee, vacated by Dr. Simpson, recently removed from the office. With regard to the question of milk supply, it was decided to request the health authorities to have inspections of certain dairies with particular reference to certain sanitary requirements. The position of the sewage disposal question in Manchester was discussed, and adjourned pending information expected at the next meeting. The question of the further provision of improved dwellings was also discussed, and it was decided to submit a scheme to the Unhealthy Dwellings Committee of the City Council already laid before the Lewis Committee. The scheme is intended to provide for well-paid artisans to reside in the centre of the city separate dwellings with their families. The houses now occupied by this class would afford improved accommodation to the tenants of cottages which are now condemned. The draft of a memorial to the Home Office praying that the flashing point of illuminating oils imported into the country might be raised from 73° Fahrenheit to 100° was also discussed. In connection with this subject it was decided to ask the Home Office to instruct constables to prevent as far as practicable, persons from lighting lamps under their notice, the destruction of which might be the cause of the accidents. It was suggested that if nothing was done until an expert arrived much useful knowledge might be lost which would tend towards the removal of the causes of the lamp accidents which now occur. On the subject of fatal accidents caused by carbolic acid, it had been ascertained that cases are so few that any representation on the subject of the poison could scarcely be successful, and it was decided to take no action in the matter.

THE NIAGARA DRY CRUSHER.—We learn that Messrs. Easton, Anderson & Goolden Ltd. have sent out a pioneer plant to South Africa, and that their Mr. Astley P. Friend left last week for Johannesburg, where the crusher will be first tried.

FIRE AT A DYEWOOD WORKS.—Last week a fire was discovered to have broken out at the works of the Wyke Dyeware Company, Wyke, Yorkshire. Owing to the lack of apparatus in the district, it was fully an hour before water could be brought to bear on the flames. The damage is estimated at £2,000.

GALICIAN PETROLEUM.—The discovery of petroleum wells in Galicia has caused a heavy fall in the price, which from an average of 3 florins has sunk to 1 florin 80 kreussers. The old producers of Galicia have now decided to form a ring by which production can be regulated.

BURNING OF A NAPHTHA CARGO AT SEA.—During a gale which raged on Sunday night last the German ship *Athena*, which was bound from New York to London with a cargo of naphtha, was found to be on fire in the holds when some 319 miles off Cape May. The steamer *Tafna* went to her assistance, but while taking the crew off the burning vessel a series of explosions occurred. The captain and 13 of the crew were killed, but the first and second mates and four of the crew were saved.

MANCHESTER CHEMICAL CLUB.—The first smoking concert of the season in connection with this club was held on Friday last week at the rooms of the Society of Chemical Industry, Victoria Hotel, Manchester. There were about 80 present. The musical arrangements were in the hands of Mr. Irvine, who provided a highly artistic and entertaining programme. The instrumental selections included solos and duets for the cello, violin, flute, and piano. The sentimental numbers were ably rendered, and included some tuneful old Scotch ballads. The humorous items were above the average for smoking concerts, and needless to say were keenly appreciated.

CHEMICALS VIA THE SHIP CANAL.—Among the cargoes imported last week connected with the chemical trade there were eight of china clay and stone, one each of rocksalt, saltcake, and copperas, and two of timber and woodpulp. The exports included one cargo of salt. The Norwegian steamer *Faerelandet*, 984 tons register, which arrived in the docks last week with a large cargo of woodpulp from Skien, has been fixed hence to Cette with a cargo of pitch. This cargo, weighing over 2,000 tons, will be one of the largest consignments of pitch ever shipped from the canal, and will be the third or fourth exported to Cette from Manchester. There are a number of vessels carrying chemical cargoes fixed for Manchester, of which the *Neto* is fixed from Almeria for bauxite and esparto grass. The *Alfonso* is in passage from Cette with bauxite. The barque *River Thames* (454 tons) has been fixed with a cargo of resin from Wilmington, and the *Edith Mary* (304 tons) with logwood and mahogany from Laguna. A cargo of logwood is on passage by the *Giovanni* from Antigua, making in all eight cargoes of dyewoods fixed for the canal from the West Indies and Central America. There are nearly a score of cargoes of timber and woodpulp fixed from the Baltic and Norway, the unusual activity being due to the anticipated closing of most of the ports in a week or two.

GOLD PRODUCTION.—The Geldenhuis Main Reef Gold Mining Company report result of November crushing: 3,206 tons crushed, yielding 1,361 oz. of gold; 2,130 tons treated by cyanide, 563 oz.; total, 1,924 oz. The Nigel Gold Mining Company report that last month's crushing yielded: Battery, 117 oz.; cyanide, 1,440 oz.; total, 2,613 oz. May Consolidated: The yield of gold during November was 3,975 oz. from 11,900 tons crushed; mill running, 26 days; cyanide, 1,768 oz. from 7,800 tons; total for month, 5,738 oz. Lisbon-Berlyn: Results for November—Mill, 1,135 tons; recovered, 52 oz.; ore and tailings treated by cyanide, 1,170 tons; recovered, 60 oz.; total recovered, 692 oz. The Geldenhuis Estate and Gold Mining Company, Limited, report the following results for November: Crushed, 14,560 tons; obtained from mill, 4,312 oz.; from tailings by cyanide, 2,220 oz.; total, 6,532 oz. The Ferreira Gold Mining Company, Limited, announce the following results for November: Tons crushed, 6,619; bar gold extracted, 5,194 oz.; concentrates caught, 235 tons; assay value of concentrates, 6 oz. fine gold per ton; cyanide works, bullion produced from tailings, 1,512 oz. The Van Ryn Gold Mines Estate report the following production for November: Stamps, 50; tons milled, 4,466, yielding 1,954 oz.; concentrates, 50 oz.; cyanide works, 3,720 tons treated, yielding 620 oz.; total amount gold recovered, 2,624 oz. The Wemmer Gold Mining Company report the following result for November: 6,778 tons crushed, yielding 4,049 oz.; mill running, 28 days; and from cyanide plant 3,250 tons treated, yielding 1,355 oz.; 180 tons concentrates caught, assaying 117 dwt. (5 oz. 17 dwt.). United Langlaagte: Crashings for November—Days running, 27; number of stamps, 60; tons crushed, 4,704; gold won, 1,094 oz.; 4,130 tons treated by cyanide process for 754 oz. Paarl Central: Mill crushed 4,924 tons, yielding 1,217 oz.; cyanide works treated 3,150 tons, yielding 715 oz.

total, 1,932 oz. Block B Langlaagte Estate: Production for November—Mill, stamps running, 75; ore crushed, 8,070 tons; gold retorted, 2,525 oz. Tailings (cyanide process)—tons treated, 4,730; gold recovered, 503 oz. Concentrates (cyanide process)—tons treated, 214; gold recovered, 390 oz.; total gold recovered, 3,418 oz., against 3,606 oz. for October. The Wolhuter Gold Mining Company's crushing for November was 3,650 oz. from 10,312 tons; cyanide, 1,785 oz.; total, 5,435 oz.

Market Reports.

TAR AND AMMONIA PRODUCTS.

There is no change in the price of benzols, which continue firm. Carbolic acids are steady, 60% crude being well sold and difficult to obtain for prompt delivery at 1s. 8½d.; crystals (40%) are scarce, and firm at 6½d. Solvent naphtha is steady at 1s. 5½d. to 1s. 6d., according to locality. Crude naphtha stands at 10d. or thereabouts. Anthracene is firm, though transactions are reported at prices below the combination values. Creosote steady, 1½d. to 2d., according to quality. Pitch fairly steady at 37s. to 37s. 6d., f.o.b., East Coast.

Sulphate of ammonia is quiet, with falling prices reported. The quotations at the moment appear, however, to be more or less nominal. Beckton is quoted £9., London outside makes £8. 12s. 6d., Liverpool £8. 13s. 9d., Hull £8. 11s. 3d. to £8. 12s. 6d., and Leith £8. 10s. to £8. 11s. 3d., prompt. Forward dealings are very slow, and quotations too divergent to be reliable. Nitrate shows signs of firmness.

REPORT ON MANURE MATERIAL.

The market is still without much life, the indifference of buyers generally being the principal feature. In regard to the mineral phosphates there is no change in the position. The low prices current do not allow of any concession from sellers, and no business of any moment is reported. Prices remain as last quoted. The price asked for River Plate bone cargoes is £3. 16s. 3d., but so far no sales appear to have been made thereat. Crushed Kurrachee bones are worth about £4., while Bombay bone meal is quoted at £3. 17s. 6d., ex quay, for near delivery, without finding buyers. Nitrate of soda is rather firmer, prices on spot having been advanced to 7s. 7½d. to 7s. 9d. The report is again revived that there is a probability of a combination of producers being effected, and consequently more business has been done in cargoes at 7s. 6d. to 7s. 7½d. per cwt., according to position.

MISCELLANEOUS CHEMICAL MARKET.

Alkalies all round are firm, and there is a heavy demand for export in all the leading lines. For bleaching powder prices remain firm, both for spot and forward delivery, £7. rails makers' works being current price, and £7. 5s. to £7. 7s. 6d. hardwoods, f.o.b. Liverpool. Alkali, 58%, steady, at £3. 7s. 6d. bags, at makers' works. Negotiations are still in progress which are expected to prevent any dissolution of the agreement between the large makers of alkali, and the prospects of the market are accordingly improved. Caustic soda is in good demand, with price unchanged from last week's quotations, viz., f.o.b. Liverpool: 77%, £9. 5s.; 74%, £8. 7s. 6d.; 70%, £7. 7s. 6d.; 60%, £6. 7s. 6d. 10-ton lots. Chlorate of potash and soda are without fluctuation, at 4½d. and 6½d. per lb. respectively. Sulphur £3. 12s. 6d. in bulk at works. Saltcake firmly maintained, and only small re-sale lots meantime to be had below 27s. 6d. per ton f.o.r. Lancashire. Soda crystals and bicarbonate are without change in value. Sulphate of copper steady, at £16. to £16. 5s. f.o.b. Demand for arsenic is still in excess of supply, and price firm, nominally at £15. 15s. f.o.r. Garston. Acetates of lime, brown and grey, are without movement for spot delivery; forward values are uncertain. Other acetates without change in position or value. Demand is fairly brisk for potash, caustic, and carbonate, and prices on the whole have a higher tendency, as usual in the winter months. Prussiate of potash remains at 7¾d. to 8d. per lb., according to brand. Cyanide of potassium 1s. 4d. per lb. Carbolic acid crystals are in strong request, and price is rather higher. Aniline oil and salt are firmer in price. Sulphocyanides meet with a fairly good inquiry, but are without any improvement in value. Oxalic acid 3½d. to 3¾d., according to quantity. Borax is steady, at £19. to £20. for refined crystal. Nitrate of soda without change on the spot, but firmer for forward delivery. As usual, towards the close of the year, there is some reported falling off in demand for chemicals in various manufacturing districts.

LIVERPOOL MINERAL MARKET.

The market continues to rule firm. Manganese: Arrivals have somewhat improved, but they have gone direct into consumption, and stocks are further reduced; prices are therefore somewhat advanced, and we think that the advance is likely to be maintained. Ground manganese continues to sell freely at £6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore is unaltered at 16s. to 17s. 6d. per ton, c.i.f. Chrome ore: Arrivals are somewhat reduced, and prices are firm, with an upward tendency, viz., 70s., 100s., and 105s. per ton, according to quality. Bauxite continues in good request, with a strong prospect for the future, sales being at present made at 20s. for first, 16s. for second, and 12s. for third quality, f.o.b., in cargoes. French chalk: Though arrivals have still further improved, they have gone immediately into consumption, whilst stocks are further reduced—"Angel White" brands are firm at 70s. to 75s., 80s. to 90s., and 100s. to 110s. per ton, according to grade. Magnesite is slow, and prices are easy, but there are future prospects of a larger business at increased prices. Wolfram and scheelite are steady at unaltered prices. Arsenic is strong at higher prices. Fuller's earth: "Emerald" and other brands are steady at 50s. for lump, 55s. for powdered, and 70s. per ton for impalpable powder. Rottenstone: Prime quality is scarce, and bringing full prices. Umbers and ochres continue steady: French J.C. ochre is being done at 60s. to 65s. per ton, and umber at 40s. per ton. Oxides of iron sell readily at £6 to £10. per ton for good staining, and prime qualities at £17. to £20. per ton. Carbonate of barytes is quiet, but with the coming winter and prospect of shorter supplies, there is a probability of an advance in price. Fluorand feldspar are steady without change. Emery stone is in more request: Prime Turkish is being done at 75s. to 95s. per ton, according to quality, and Naxos still firm at last prices. Mica is steady at £15. to £18. per ton. Bog ore is in fair request at 22s. 6d. per ton. Plumbago meets with a good demand at £6. to £10. per ton for founders' and lubricating purposes, and prime Ceylon at £15. to £20. per ton. Pumice stone is steady at £10. to £12. per ton, powdered £7. per ton. Iron ore is quiet at 10s. per ton; Spanish and other qualities quiet, but firm.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, steady: Scotch warrants closed at 46s. 3½d.; Middlesbrough, 37s. 5d. cash, and hematite, 47s. 3d. Copper, steady: Chili bars, G. O. B.'s and G. M. B.'s closed at £42. 16s. 3d. to £43. 1s. 3d. cash, and £43. 3s. 9d. to £43. 8s. 9d. three months. Tin quiet: Straits closed at £61. 12s. 6d. to £62. 2s. 6d. cash, and £62. 2s. 6d. to £62. 12s. 6d. three months. Australian, £62. 7s. 6d. English ingots, £65. Lead, slow. Spanish, £11. 7s. 6d.; English, £11. 12s. 6d. Silesian spelter, ordinary, £14. 11s. 3d. to £14. 13s. 9d. Nickel, 1s. 1½d. Antimony, £30. 5s. Quicksilver, quiet: first hands, £7. 7s. 6d.; second hands, £7. 5s. Copper shares, steady: Cape, 2 to 2½; Copiapó, 1½ to 2½; Libiola, 2½ to 2¾; Mason and Barry, 2½ to 2¾; Rio Tinto, 15½ to 15¾; Tharsis, 4¾ to 4¾.

GLASGOW WEDNESDAY.—Market a shade better, with moderate business. Scotch done at 46s. 3d. and 46s. 4d. cash, also at 46s. 5½d. one month; closing with buyers at 46s. 3½d. cash, sellers ask 46s. 4d. Cleveland done at 37s. 7d. one month; closing with buyers at 37s. 5d. cash, sellers ask 37s. 5½d. Cumberland hematite done at 47s. 2½d. and 47s. 3d. cash; closing with buyers at 47s. 3d. cash, sellers ask 47s. 3½d. Middlesbrough hematite closes with buyers at 45s. 1½d. cash, sellers ask 45s. 2d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is scarce, and the business passing is insignificant. Olive is firm, with a restricted inquiry. Linseed keeps very quiet, though Liverpool makes in export casks are quoted at 20s. 9d. to 21s. 6d. per cwt. Cottonseed is easier: Liverpool refined is quoted at 17s. 3d. to 17s. 9d. per cwt., while American is nominal at last week's figures. Castor oil, though quiet, is experiencing a rather better inquiry for spot lots: Good seconds Calcutta remains at 2¼d.; first pressure French, 2¾d. per lb. Tallow is quieter, but spot values of choice American remain unaltered. Resin is very steady, with good sales, at rates based on common as last quoted. Spirits of turpentine are dearer, the value for prompt now being 30s. 6d. to 30s. 9d. per cwt. Fish oil (Japanese), 13s. 9d. to 14s. per cwt. in packages. Petroleum dearer and steady: American, 7¾d. to 8½d.; and Russian refined, 7d. per gallon.

COLOURS are steady, without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £13. Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Umber:

quiet; Devonshire, 50s. to 55s. White lead, £16. Red lead ed. Venetian red, £6. to £10. Cobalt: Prepared oxide, black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, Oxide of iron: Common, £7.; medium, £10.; finest, £20. de, £22. 10s. to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

most active section of the Scotch market just now is that of oils and paraffins, all departments of which are in active, and some of them pouring out of works in very large volume. It is the case with burning oil, which has now about reached its rate of consumption for the season. Prices are very firm, and based on contracts covering the whole of the winter months, and are undergoing practically no change. Lubricating oils are also in demand, and, being under no like system of binding conveyance have gone up in price, all except the lowest gravity, which at recent quotations. Sulphate of ammonia is weaker—6d. prompt, f.o.b. Leith, has been repeatedly done during the week; while forward (covering the spring months) has been on £8. 17s. 6d. The general chemicals market is moderately active, with dealing at prices very little changed, although caustic soda, and demands for shipping chemicals have considerably declined.

prices current are:—Soda crystals, £2. 2s. 6d., home, nett, Tyne; 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett; caustic soda, white, 76° £9. 5s., 70/72° £7. 10s., 60/62° 6d., and cream 60/62° £6. 7s. 6d., all nett, Liverpool; bleaching £6. 10s. to £7. nett, Tyne; saltcake, 27s. 6d.; borax, English, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, casks, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; nitrate of potash, 4½d. nett, for Scotch and English deliveries (for 1¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¼d. nett, for English deliveries (for export, 3½d. nett, f.o.b. Glasgow); of potash, 4¼d. less 5%, Liverpool; nitrate of soda, 7s. 6d. to 8d.; sulphate of ammonia, £8. 12s. 6d. prompt, f.o.b. Leith; uric acid, first and second white, £39. and £37. nett, any port; of copper, £16. 2s. 6d. to £16. 7s. 6d., less 5%, Liverpool; paraffin oil, 2½d., and soft, 1¾d. to 2¼d. per lb.; paraffin wax, 120° melted, 2½d. to 2¾d.; paraffin spirit (naphtha), 7½d. to 8d. per gallon; paraffin oil (burning) No. 1, 6½d., and crystal, 6¾d., at works, and buyers (English sales about ½d. lower); ditto (lubricating) 4. 15s. to £5., 880° £5. 5s. to £5. 10s., and 890/895° to £6. 10s. Week's imports of sugar at Greenock were nil.

LL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

—Business is very dull, and very few orders are being received, except for delivery during the early part of the coming year. A considerable supplies of seed continue to arrive; the date of the principal seeds continue to show an improvement compared with the time a year ago, though the same, unfortunately, cannot be applied to the imports generally, the of which has not been equal to last year. The import of linseed oil this week has been 4,077 qrs. Linseed oil has declined about 1s. per ton on the spot, closing dull at 18s. 6d. naked—at this price also sellers for January-April, May-August, or September; boiled and refined from £1. to £1. 10s. per ton extra. For the week has been 700 cwt. During the week the of cottonseed have been 2,527 tons from Alexandria, making a the year of 181,739 tons, against a year ago 172,657 tons. Cotton oil is 5s. per ton lower, but closes with a firmer tone. There are buyers at 15s., and sellers at 15s. 1¼d. naked, spot; January-April is quoted at 15s. 6d., and 16s. 3d. May-August, Crude ditto is worth 13s. 6d. naked, spot or month; casks £11., nary barrels 30s. per ton extra. The export of refined oil has the week 3,760 cwt. Spirits of turpentine, 20s. 9d. per cwt. oil, scarce and dearer. Boiled siccative oil, £13. per ton, from 17s. to 19s. per cwt. Olive oil unchanged. Liquid soap, 1 ton.

ES.—Linseed cakes steady: 95% pure, £6. per ton; Russians, 6d. to £5. 15s. Oil cakes £5. 2s. 6d. Cotton cakes firm: 1st, £3. 10s. to £3. 12s. 6d.; seconds, £3. 7s. 6d. to £3. 10s. 1st, unchanged.

TS, a quiet trade. Dry mineral colours unchanged. White 16.; red lead, £14. per ton. Oxide of zinc unchanged, £5. 15s. per ton. Various colours: Paints ground in oil from 1 ton. Paint remover, 25s. per cwt. Imperial black varnish, 1 per ton. Locomotive grease, £11. per ton. Anti-friction from £6. to £10. per ton.

TYNE CHEMICAL REPORT

TUESDAY.

Chemicals are in moderate demand, being about the average for this period of the year. Soda crystals, £2. 2s. 6d. per ton, gross weight, locally. Sulphur scarce, at £3. 17s. 6d. to £4. per ton. 76/77° caustic, £9. 5s. per ton. Other articles unchanged.

Bleaching powder, softs, £7. 5s. per ton, nett; hards, £7. 10s. per ton, nett; caustic soda, 76/77°, £9. 5s. per ton, nett; do., 70°, £7. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. ton, nett; soda ash, 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ton, nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 15s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 2s. 6d. per ton, nett weight; chlorate of potash, 5d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

SALT.—South Durham salt is in good demand, at 9s. 6d. per ton, f.o.b., Tees.

COALS.—Trade is slightly steadier, owing probably to the natural desire to increase stocks before the holidays. Gas coals firm, the consumption being at its maximum. Prices to-day are:—Best Northumbrian steam, 8s. to 8s. 3d. per ton; second qualities, 7s. to 7s. 3d. per ton; small steam, 3s. 9d. to 4s. per ton; gas coals firm, at 7s. to 7s. 6d. per ton; household coals, 10s. to 11s. per ton; coke steady, 14s. to 14s. 6d. per ton.

New Companies.

Brill Brick and Tile Co., Ltd.—CAPITAL £10,000., in shares of £10. each. This company has been formed to manufacture and deal in bricks, tiles, cement, etc. The subscribers to the memorandum of association are:—H. O. Baldry, 21, Queen Anne's Gate, S.W., contractor; J. E. Yerburgh, 21, Queen Anne's Gate, S.W., contractor; G. H. Peake, Hooton Pagnell Hall, Doncaster, barrister; Mrs. H. O. Baldry, Southwell, Notts; Mrs. J. E. Yerburgh, Sherford House, Bromyard; H. A. Peake, Sleaford, solicitor; W. J. M. Patterson, 21, Queen Anne's Gate, S.W., clerk.

Stanley Bros., Ltd.—CAPITAL £160,000., in £10. shares. This company has been formed to enter into an agreement with R. Stanley and A. H. Rogers to acquire and carry on the various brick and glaze enamel works and a colliery situated at Nuneaton, and also a brick works at Willenhall. The subscribers to the memorandum of association are:—R. Stanley, J.P., Manor Court, Nuneaton; A. H. Rogers, The Poplars, Stockingford, manager; H. Holloway, Queen's-road, Battersea, contractor; T. P. Whittaker, M.P., 9, Taviton-street, Gordon square; F. J. Monro, 31, Queen Victoria-street, E.C., solicitor; E. P. Jepps, 25, Cedars-road, Clapham, gentleman; E. Fletcher, Llanover-road, Clapham, gentleman.

Bond's Soap Co., Ltd.—CAPITAL £6,000., in £1. shares. This company has been formed to acquire the business formerly carried on by Mear and Green, Limited, in connection with the by-product from their borax works; to acquire the benefit of the discoveries made by Thomas Bond, grocer, of Rusholme, Manchester, and Charles A. McKerrrow, analytical chemist, of 18, Exchange-street, Manchester, for making the said by-product into soap; to adopt a certain agent, and to carry on the business of metal, toilet, and other soap manufacturers, dealers, and agents, manufacturers of and dealers in perfumes, cosmetics, and other toilet requisites, chemists, druggists, drysalers, oil and colourmen, etc. The first directors are Nicholas Kilvert, Harry V. Kilvert, Stephen Mear, and Charles A. McKerrrow. Qualification, 50 shares. The subscribers to the memorandum of association are:—T. Bond, 123, Wilmslow-road, Rusholme, grocer; C. A. McKerrrow, 18, Exchange-street, Manchester, chemist; N. Kilvert, Mark-lane, Manchester, lard refiner; A. H. Hope, 26, Moxley road, Crumpsall, clerk; S. Mear, Longton, Staffs., merchant; G. C. Kent, Longton, Staffs., solicitor.

Gazette Notices.

PARTNERSHIP DISSOLVED.

B. B. WAKE and H. S. SANDERS, mica merchants and general agents, Crosby-square, E.C., under the style of Wake and Sanders.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending December 7th.

Acetanilide—
Holland, 10 pks. J. Barber & Co.
Acetate of Lime—
U. States, 716 pks. Lister & Biggs

Acetic Acid—
Holland, 70 pks. F. J. Putz & Co.
" 15 cks. A. & M. Zimmermann
" 20 H. Wallace & Co.

Alum—
Belgium, 11 pks. H. Wallace & Co.
" 84 R. W. Greeff & Co.
Holland, 205 Ohlenschlager Bns.
" 30 Thames S. T. & L. Co., Ltd.
" 8 W. Burton & Sons
Germany, 128 Beresford & Co.

Alumina Sulphate—
Holland, 45 pks. H. Wallace & Co.
" 40 T. H. Lee

Ammonium Chloride—
Holland, 12 pks. H. Lorenz

Anthracene—
Holland, 76 cks. Burt, Boulton & Co.

Antimony—
Australia, 22 t. Vivian, Younger & Co.

Antimony Ore—
U. States, 150 t. H. R. Merton & Co.

Arsenic—
Germany, 30 pks. Petri Bns.

Asbestos—
Italy, £50 Bender Martiny
Canada, 24 L. & I. D. Jt. Co.
Germany, 251 T. H. Lee
" 255 Pickford & Co.
" 255 British Asbestos Co.
" 230 London Asbestos Co.
Canada, 500 J. Owen
" 540 W. Byford
Germany, 50 Craven & Co.

Barytes—
Holland, 19 cks. Beresford & Co.
" 21 J. L. Lyon & Co.
Germany, 20 Moreton, Cox & Bns.
Belgium, 71 cks. W. Harrison & Co.
Holland, 23 173 pks. Burrell & Co.
" 209 W. Harrison & Co.

Camphor—
Japan, 195 pks. R. Warner & Co.
" 75 Lewis & Peat

Caoutchouc—
Madagascar, 36 c. Procter Bns.
Singapore, 84 Prop. Bull Wf.
Zanzibar, 22 Arbutnot, Ewart & Co.

U. States, 20 Prop. Bull Wf.
Java, 5 L. & I. D. Jt. Co.
Ibo, 68 Forbes, Forbes & Co.

M'dagascar, 48 L. & I. D. Jt. Co.
Cape, 40 Hammond & Co.
M'dagascar, 400 " Kleinwort, Sons & Co.

Zanzibar, 11 Clarke & Smith

Castor Oil—
Italy, 20 cs. Major & Field
Belgium, 30 brls. Burrell & Co.
France, 15 Beresford & Co.
Japan, 9 L. & I. D. Jt. Co.
E. Indies, 50 cks. Ross & Deering
Italy, 5 cs. R. Quincey & Son
" 10 Langton, Edden & Co.
E. Indies, 122 Cayzer, Irvine & Co.

Italy, 5 A. F. White & Co.
" 15 A. Laming & Co.

Caustic Potash—
Holland, 2 pks. J. Barber & Co.

Chemicals (otherwise undes.)—
Holland, 22 pks. Typke & King
Belgium, 7 O. Scholzig
Germany, 74 2 cs. T. H. Lee
" 13 Philipps & Graves
" 33 83 A. & M. Zimmermann
France, 10 drs. Spies Bns. & Co.

Belgium, 6 T. Palmer
Germany, 2 cs. L. & I. D. Jt. Co.

Holland, £14 Beresford & Co.
" 27 G. Rahn & Co.
Germany, 12 Pickford & Co.
Holland, 6 cks. A. & M. Zimmermann

Cream of Tartar—
Italy, 4 pks. F. C. Devon & Co.
Germany, 2 B. & F. Wf. Co.
France, 5 W. C. Bacon & Co.
Holland, 40 Kirkpatrick & Co.

Dextrine—
Germany, 15 cks. City Coml. Wf. Co.
" 20 pks. M. D. Co.
" 35 Pronk, Davis & Co.
" 100 R. G. Hall & Co.

Dyestuffs—
Argols
Italy, 763 pks. B. Jacob & Sons

Cochineal
Canaries, 12 pks. G. S. Bruce
" 13 Sperling & Williams
" 8 L. & I. D. Jt. Co.

" 17 W. M. Smith & Sons
" 54 J. W. Borland
" 3 F. Huth & Co.

Cutch
E. Indies, 250 pks. W. H. Hindley & Co.

Rangoon, 1,106 Galbraith, Pembroke & Co.

Extracts
Germany, 200 pks. T. H. Lee
Canada, 80 cks. Furness, Withy & Co.

Denmark, 1 pkge. Beck & Pollitzer

Austria, 300 A. J. Humphery
France, 91 B. & F. Wf. Co.
E. Indies, 24 Page, Draper & Co.

Gambier
Singapore, 530 pks. Brown & Elmslie

Indigo
Holland, 1 cht. Koebel & Co.
E. Indies, 30 H. Johnson & Sons

" 46 L. & I. D. Jt. Co.
" 7 Croysdale & Co.
" 10 Ross & Deering
" 37 Parsons & Keith

" 1 pkge. H. Davies
" 14 R. von Glehn & Sons
" 4 bxs. Patry & Pasteur

Holland, 10 Parsons & Keith

Logwood
Belize, 553 t. W. Shelcott

Myrabolams
E. Indies, 2,731 pks. F. Claydon & Co.

Shumac
Italy, 500 pks. Harris Bns.

Tanner's Bark
Belgium, 25 t. Sawyer, Sons & Co.

" 2 Leach & Co.
Melbourne, 6 R. Brooks & Co.

Valonia
A. Turkey, 29 t. A. & W. Nesbitt
" 50 Adam Bns.

Greece, 7 Bramwell & Fern

Dyestuffs (otherwise undes.)—
Italy, 100 bgs. J. Kitchin, Ltd.
" 200 W. Shelcott
Cyprus, 150 R. G. Hall & Co.
" 800 Dunlop Burhus

Farina—
Holland, 100 pks. T. H. Lee
France, 7 Hernu, Peron & Co.
Holland, 21 T. M. Duché & Sons

Austria, 55 R. G. Hall & Co.
" 100 Dunlop, Bns. & Co.
Germany, 100 Seaward Bns.
" 100 G. Hornzee

French Chalk—
Italy, £100 Harrison & Co.

Glucose—
U. States, 500 pks. 500 c. Ohlenschlager Bns.
" 2,500 2,500 c. Pearce, Pelly & Co.

" 500 500 T. M. Duché & Sons
" 250 250 L. Norman & Co., Ltd.
Germany, 50 460 R. G. Hall & Co.
" 50 410 L. Sutro & Co.

France, 200 200 L. Norman & Co., Ltd.
" 300 300 Barrett, Tagant & Co.

U. States, 100 575 Deering & Robottom

Germany, 25 202 Bennett S. S. Co.

Holland, 30 30 Proprs. Sun Wf. G. Clark & Son

France, 20 20 D. & J. Fowler
U. States, 250 250 Cole & Carey

" 5,100 5,435 L. Sutro & Co.
" 1,025 1,050 G. Clark & Son

" 100 100 Fellows, Morton & Co.

" 1,950 1,950 E. Dixon
" 105 597 Soundy & Sons

" 1,100 2,950 R. G. Hall & Co.
" 750 750 Beresford & Co.

Germany, 37 299 M. D. Co.
U. States, 50 300 C. Southwell & Co.

Glue—
—, £1,494

Guano—
Germany, 22 t. Culverwell, Brooks, & Co.

Peru, 1,306 Anglo-Contl. G. Wks.
C. Colony, 390 D. de Pass & Co.

Infusorial Earth—
Germany, £10 T. H. Lee

Litharge—
Holland, 15 cks. J. Owen

Magnesia—
Belgium, 100 pks. Berger, Kahler, & Co.

Holland, 30 Beresford & Co.

Manure—
E. Indies, 250 A. Hunter & Co.
Germany, 25 A. H. Keep

Belgium, 80 Sawyer, Sons & Co.
Germany, 207 D. de Pass & Co.

" 345 Agricul. & Horticul. Association
Belgium, 10 B. Jacob & Sons

France, 676 Francis & Co.
Sydney, 3 bgs. G. S. Vuill & Co.

Belgium, 6 t. H. & E. Albert
" 20 Anglo-Contl. G. Wks.

Methyl Alcohol—
Belgium, 7 dms. Stein Bns.
" 20 cks. A. Chapman

Germany, 8 Stein Bns.

Mica—
Ceylon, £85 W. M. Smith & Sons
E. Indies, 135 "

Naphthol—
Holland, 8 pks. Philipps & Graves

Ochre—
France, 50 brls. W. Harrison & Co.
Spain, 36 H. Johnson & Sons

France, 96 cks. G. Mallard
Holland, 2 6 pks. Philipps & Graves

U. States, 49 brls. Corticine F. C. Co.
France, 96 cks. Perkins & Homer

U. States, 60 brls. London & Kirkcaldy S. Co.

Pitch—
Belgium, 32 brls. Abbey, Abbey, & Co.

Plumbago—
Germany, 51 cks. Fellows, Morton, & Co.

Sydney, 76 B. Gallaway
Germany, 3 G. P. Nightingale

E. Indies, 35 brls. L. & I. D. Jt. Co.

" 260 G. Mallard
Belgium, 200 F. W. Berk & Co.
Germany, 508 Anglo-Contl. G. Wks.

Pumice Stone—
Italy, 33 t. W. Balchin
" 10 Seaward Bns.

Quicksilver—
Spain, 32 btls. H. J. Enthoven & Son

" 32 L. & I. D. Jt. Co.

Rosin—
Holland, 2 brls. Philipps & Graves

Rosin Oil—
France, 250 brls. C. Price & Co.

Saltpetre—
E. Indies, 648 bgs. Co-op. Lightgr. Association

Germany, 192 cks. P. Hecker & Co.
" 85 L. & I. D. Co.

E. Indies, 2,639 bgs. Lucas & Spencer's Wf.

Soapstone—
Italy, £36 J. W. Cook & Co.

Sodium Carbonate—
Holland, 10 c. J. Barber & Co.

Starch—
Belgium, 155 pks. F. Claydon & Co.

" 100 Arnati & Harrison
" 20 T. Ronaldson & Co.

Holland, 80 J. Barber & Co.
Belgium, 120 Leach & Co.

Holland, 80 Philipps & Graves
France, 155 A. Dunn

Belgium, 248 T. H. Lee
Germany, 1,010 Horne & Co.

" 200 L. Sutro & Co.
" 104 Philipps & Graves

Holland, 120 G. Rahn & Co.
U. States, 1,372 Little & Johnston

" 220 Horne & Co.

Stearine—
France, 15 cks. H. Hill & Sons
Belgium, 64 bgs. C. S. Lovell

Sulphur—
Italy, 25 t. G. Boor & Co.

" 100 Johnson & Hooper
" 20 Jessop & Co.

Sulphur Chloride—
Belgium, 7 pks. A. Zumbeck & Co.

Talc—
Italy, £40 G. F. Gerhardt
Austria, 45 M. D. Co.

France, 24 Brach & Rothenstein

Tar—
N. Russia, 12 cks. Williams, Torrey, & Co.

Tartaric Acid—
Holland, 9 pks. W. M. Smith & Sons

" 27 B. & F. Wf. Co.
" 3 F. C. Devon & Co.

France, 3 " "
Germany, 8 " "

" 10 B. & F. Wf. Co.
France, 63 " "

Turpentine—
U. States, 3,210 brls. Prod. Brokers' Co.

Ultramarine—
Holland, 10 cs. Haefner, Hilpert, & Co.

Germany, 26 pks. Steinhoff, Sons, & Co.

Holland, 20 cs. Hernu, Peron, & Co.
" 20 cks. 23 pks. S. T. & L. Co., Ltd.

Germany, 8 Blundell, Spence, & Co.
Holland, 5 cs. Philipps & Graves

" 5 Escombe Bns. & Co.
" 8 cks. W. Harrison & Co.

Varnish—
Germany, 4 pks. L. & I. D. Co.
U. States, 1 pkge. R. W. Blackwell

France, 1 Flageollet & Co.

Verdigris—
France, 4 cks. B. & F. Wf. Co.

White Lead—
Holland, 19 cks. Philipps & Graves

France, 19 J. Watts & Son

Holland, 58 Burrell & Co.

France, 48 W. Harrison & Co.

Holland, 20 A. & M. Zimmermann

" 19 Perkins & Howe

" 58 D. Storer & Sons

" 73 Randall Bros.

Belgium, 16 J. L. Lyon & Co.

Pulp—
y, 500 pks. E. J. & W. Goldsmith
n, 220 A. Watson
d, 30 Hernu, Peron, & Co.
1,400 E. J. & W. Goldsmith
1,2,402
1,8,554 Henderson, Craig, & Co.
280 W. G. Taylor & Co.
ny, 50 Thames S. T. & L. Co.
y, 2,210 J. Sharp
500 Tough & Henderson
d, 381 C. S. Lovell
y, 1,500 E. J. & W. Goldsmith
y, 80 W. G. Taylor & Co.
164 Becker & Co.
80 C. S. Lovell
err., 100 O. Konig & Co.
y, 11 W. Friedlaender
ny, 400 W. E. Bott & Co.
y, 2,925 Johnsen & Jorgensen
ny, 32 H. C. Everett
side—
d, 180 cks. M. Ashby, Ltd.

VERPOOL.

Week ending December 5th.
of Lime—
ork, 200 bgs.
an—
arg, 5 cks.
g—
arg, 4 cks.
8—
dam, 60 cks.
leal—
ta, 1,000 bgs
hee, 1,190
o Acid—
n, 38 cks 3 brls.
of Lime—
ork, 1,920 bgs.
do, 1,692 bgs.
gasta, 102 Biggs & Co.
abo, 5 R. O. Worberg
arg, 11 cks.
aiso, 560 sks. A & S. Henry & Co.
3,522
house—
aiso, 14 cs. W. Brandts, Son & Co.
ic Acid—
arg, 1 ck.
Oil—
m, 25 cs. Ralli Brs.
ta, 625
als (otherwise undes.)—
ore, 12 cks.
arg, 2 5 cs.
Oxide—
dam, 10 cs.
lford, 6 brls. A. & D. Birrell
g—
dam, 50 cs.
seed Oil—
4 cks. Cunard S. S. Co., Ltd.
of Tartar—
lles, 8 cks.
ffineal—
almas, 15 bgs. Canary Islands Trading Co.
5 Kolp & Co.
ary, 14 Canary I. Trading Co.
ife, 50
sh on, 1,750 bxs.
racts
ore, 15 brls. Houston & Laurisch
50 R. Schlosser & Son
ALK, 200 cks.
wood—
80½ t. P. Leckie & Co.
abolams
y, 1,316 bgs.
ron
ia, 4 cs.

Shumac
Palermo, 250 bgs. R. Rooke, Son & Co.
120 bls.
Barcelona, 700
Gelatin—
Hamburg, 5 cs.
Glucose—
Hamburg, 90 cks.
Glue—
Hamburg, 20 bgs.
Rotterdam, 23 cs.
Antwerp, 1 ck. J. T. Fletcher & Co.
Philadelphia, 10 Fairbank Wood Rim Co.
Lactic Acid—
Boston, 6 brls. 4 kgs. J. Taylor & Co.
Manganese—
Bordeaux, 47 t. R. J. Francis & Co.
Mica—
Calcutta, 13 cs.
Minium—
Rotterdam, 4 cks.
Ochre—
Alicante, 60 brls. Roberts & Evans
Marseilles, 119 cks.
Paint—
Boston, 53 cs. Bahr, Behrend & Ross
Amsterdam, 6 brls.
Paraffin Scale—
Baltimore, 200 brls.
Rangoon, 352 bxs.
Philadelphia, 100
Paraffin Wax—
Boston, 600 brls.
Phosphate Rock—
Fernandina, 1,200 t.
Pt. Royal, S. C., 2,750
Potash—
Hamburg, 153 bgs. 20 cks.
Pumice Stone—
Messina, 11 brls.
Rosin—
Baltimore, 500 brls.
Charleston, S. C., 3,000
Slag—
New York, 1 crt.
Soap—
Forcados, 2 brls. Millward Bradbury
Bordeaux, 5 cs.
New York, 3 Burroughs & Wellcome
Leghorn, 650 bxs. Weaver & Sterry
New York, 700 50 crts.
Boston, 85
Marseilles, 8 cs. 3 bds. W. Foggitt
Boston, 8
Rotterdam, 1
Philadelphia 45
Soapstone—
Bordeaux, 200 bgs G. G. Blackwell, Sons & Co.
Sodium Nitrate—
Iquique, 12,984 bgs. Cox Brs.
Caleta Buena, 14,066
Starch—
Baltimore, 749 sks.
New York, 312 bxs.
Antwerp, 43 cs. J. T. Fletcher & Co.
Rotterdam, 54
Stearine—
Antwerp, 6 bgs. 1 tub
Sulphur—
Catania, 100 t. 150 bgs. 101 brls.
Superphosphate—
Antwerp, 100 bgs.
Tallow—
Sydney, N. S. W., 508¼ t. Lever Brs., Ltd.
Boston, 10 tcs. J. Conning & Co.
Philadelphia, 86
Tartar—
Bordeaux, 15 cks.
Ultramarine—
Rotterdam, 3 cs.
Yarnish—
Baltimore, 2 brls. Pinchin, Johnson & Co.
Verdigris—
Bordeaux, 3 cks.

Waste Salt—
Hamburg, 5,572 bgs.
White Lead—
Rotterdam, 69 cks.
Wood Pulp—
Gothenburg, 10 bls. G. F. Green & Co.
15 Bahr, Behrend & Ross
170
Arendal, 3,570 H. Tyrer & Co.
Rotterdam, 114
Zinc Oxide—
Nantes, 89 bgs. R. J. Francis & Co.
Antwerp, 22 cks. 60 brls. J. Matthew & Co.
Rotterdam, 50
25
Zinc White—
Rotterdam, 25 cks.

MANCHESTER.

Week ending December 7th.
Acetic Acid—
Rotterdam, 7 blns.
Albumen—
Hamburg, 14 cks. 4 cs.
Aniline Colours—
Hamburg, 27 cks.
Antimony Salts—
Rotterdam, 4 cks.
Barytes—
Rotterdam, 11 cks.
Boracic Acid—
Hamburg, 2 cks.
Chemicals (otherwise undescribed)
Rouen, 38 cks.
Colours—
Hamburg, 24 cks. 24 cs.
Rotterdam, 23 40 brls 39
16 bxs.
Trepport, 2
Ghent, 6
Antwerp, 2 J. T. Fletcher & Co.
2 7 pkgs. 6 kgs.
Dyestuffs—
Alizarine
Rotterdam, 48 cks. 2 cs.
Extracts
Nantes, 60 cks. J. & P. Hutchinson
Rotterdam, 4
Trepport, 42
Farina—
Hamburg, 570 bgs.
Rotterdam, 1,000
Gelatin—
Rouen, 10 cs.
Glue—
Hamburg, 75 bgs.
Rouen, 7 bls. 34 cs. 50 cks.
Rotterdam, 5 60
Trepport, 20 bls. 12
Antwerp, 20
Lead Acetate—
Hamburg, 29 cks.
Limestone—
Antwerp, 2 crts.
Manganese—
Hamburg, 200 bgs.
Ochre—
Trepport, 21 cks.
Phosphate—
Rotterdam, 9 cks.
Pitch—
Hamburg, 218 brls.
Antwerp, 20 cks.
Potash—
Rouen, 41 dms.
Rotterdam, 10 cks.
Trepport, 21
Pyrites—
Huelva, 1,726 t. Leigh & Lillivan
Salicylic Acid—
Hamburg, 3 cs.
Salt—
Hamburg, 40 cks. qty.
Starch—
Hamburg, 872 cs.
Rotterdam, 65
Antwerp, 80
Tartar—
Hamburg, 4 cks.
Bordeaux, 7
Tartar Emetic—
Hamburg, 12 cks.

Tartaric Acid—
Bordeaux, 3 cks.
Rotterdam, 40
Ultramarine—
Hamburg, 12 cks.
Waste Salt—
Hamburg, qty.
Wood Pulp—
Rotterdam, 160 pkgs.
Wood Spirit—
Hamburg, 18 dms.
Zinc Oxide—
Antwerp, 10 brls.
Zinc White—
Rotterdam, 5 cks.

HULL.

Week ending December 7th.

Acetate—
New York, 205 bgs. Wilson, Sons, & Co., Ltd.
Acetic Acid—
Rotterdam, 34 blns. Hutchinson & Son
Albumen—
Hamburg, 11 cks. Wilson, Sons, & Co., Ltd.
Ammonia—
New York, 100 cyldrs. Wilson, Sons, & Co., Ltd.
Barytes—
Rotterdam, 68 cks. Hutchinson & Son
Antwerp, 186 Bailey & Leatham
Chemicals (otherwise undescribed)
Dunkirk, 15 pks. Wilson, Sons, & Co., Ltd.
Rotterdam, 2 brls. W. & C. L. Ringrose
Stettin, 28 cks. Wilson, Sons, & Co., Ltd.
Bremen, 5 kgs. 3 cs. Veltmann & Co.
Antwerp, 6 cks. 6 pks. Wilson, Sons, & Co., Ltd.
Danzig, 14
8 W & C. L. Ringrose
Cod Oil—
Bergen, 3 brls. Wilson, Sons, & Co., Ltd.
Colours—
Hamburg, 2 cks. Wilson, Sons, & Co., Ltd.
Ghent, 4
Antwerp, 2 Bailey & Leatham
10 33 pks. 10 brls.
Wilson, Sons, & Co., Ltd.
New York, 67 brls. Wilson, Sons, & Co., Ltd.
Rotterdam, 31 cs. 88 177 pks. 11 cks.
40 bxs. W. & C. L. Ringrose
Danzig, 3 pks. Wilson, Sons, & Co., Ltd.
10 cks.
Dextrine—
Stettin, 200 bgs. Wilson, Sons, & Co., Ltd.
Dyestuffs—
Alizarine
Rotterdam, 88 pks. 10 cks. 23 brls. W. & C. L. Ringrose
Yalonia
Smyrna, 54 t.
Malta, 175
Farina—
Ghent, 207 pks. Wilson, Sons, & Co., Ltd.
Stettin, 370 bgs. "
150
Glucose—
New York, 300 brls.
Glue—
Dunkirk, 44 cks. Wilson, Sons, & Co., Ltd.
Rouen, 2 17 bgs. 41 brls. Rawson & Robinson
Stettin, 20 pks.
Rotterdam, 7 W. & C. L. Ringrose
Hamburg, 63 50 bgs. Wilson, Sons, & Co., Ltd.
Limestone—
Antwerp, 1 crte. Wilson, Sons, & Co., Ltd.
Ochre—
Rouen, 5 cks. Rawson & Robinson
24

Paint— New York, 10 cs. Wilson, Sons & Co., Ltd.			Wood Pulp— Helsingfors, 345 bls. J. Good & Sons " 112 Bailey & Leatham " 287			Soap— Newport News, 340 bls. W. Buntin & Co.			GOOLE. <i>Week ending December 24th</i>		
Phosphate— Antwerp, 351 bgs.			Zinc Ashes— Antwerp, 10 cks. Bailey & Leatham			Sodium Sulphate— Rotterdam, 10 cks.			Alum— Rotterdam, 33 cks. 10 bgs		
Phosphate Rock— Coonaw, 3,020 t. Hammond, Emes, & Co.			Zinc Oxide— Antwerp, 50 cks. Bailey & Leatham			Starch— Antwerp, 240 cs. J. Rankine & Son Rotterdam, 98			Antimony— Boulogne, 1 ck.		
Pitch— Amsterdam, 66 cks. 1 cs. Hutchinson & Son			Zinc White— Rotterdam, 10 cks. W. & C. L. Ringrose " 10 bls. Hutchinson & Son			Stearine— Antwerp, 63 bgs. Amsterdam, 155			Caoutchouc— Boulogne, 7 cks.		
Potassium Silicate— Rotterdam, 80 cks. Hutchinson & Son						Sulphur Chloride— Rotterdam, 17 djhs. J. Rankine & Son			Colours— Hamburg, 24 cks. 20 ck. Ghent, 21 kgs. 3		
Saltpetre— Antwerp, 135 bgs. Wilson, Sons & Co., Ltd.						Tallow— Rotterdam, 27 tcs. J. Rankine & Son			Dyestuffs— Alizarine Rotterdam, 54 cks. 4 cs.		
Soap— New York, 150 pks. Wilson, Sons & Co., Ltd.						Treacle— Rotterdam, 1 brl.			Extracts Rouen, 61 cks.		
Sodium Nitrate— Hamburg, 60 bgs. Wilson, Sons & Co., Ltd.						Ultramarine— Rotterdam, 10 cs.			Logwood Belize, 315 t.		
Starch— Amsterdam, 5 cs. Hutchinson & Son						Yarnish— New York, 26 bls.			Madder Rotterdam, 6 cks.		
Antwerp, 40 Bremen, 1,938 3 bls. Veltmann & Co.						White Lead— Rotterdam, 98 cks. J. Rankine & Son			Dyestuffs (otherwise undescr'd) Rotterdam, 76 cks. 30 cs. Boulogne, 38 6 pags. 6		
Stearine— Antwerp, 106 bgs. Wilson, Sons & Co., Ltd.						Wood Pulp— Gothenburg, 366 pks. Christiania, 900 bls.			Farina— Hamburg, 450 bgs.		
Tallow— New York, 475 tcs. Wilson, Sons & Co., Ltd.						Zinc White— Rotterdam, 125 cks. J. Rankine & Son			Glucose— Calais, 100 bgs.		
Tar— Stockholm, 25 bls. Wilson, Sons & Co., Ltd.									Potash— Rotterdam, 12 cks.		
Tartaric Acid— Rotterdam, 23 cks. Hutchinson & Son									Dunkirk, 10 Calais, 42		
Treacle— Christiansand, Wilson, Sons & Co., Ltd.									Saltpetre— Hamburg, 42 cks.		
New York, 1,050 bls. Boston, 350 "									Sulphur Ore— Seville, 420 t.		
Yarnish— New York, 35 pks. 2 bls. Wilson, Sons & Co., Ltd.									Yarnish— Boulogne, 6 cs.		
Waste Salt— Hamburg, qty. Bailey & Leatham									Waste Salt— Hamburg, 90 t.		
" 508 bgs. " 50 90 t. Wilson, Sons & Co., Ltd.									Wood Pulp— Rotterdam, 21 bls.		
White Lead— Rotterdam, 86 cks. Hutchinson & Son											
Antwerp, 61 Hamburg, 10 cs. Wilson, Sons & Co., Ltd.											

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON. <i>Week ending December 11th.</i>			Ammonium Sulphate— Newport News, 103 t. £1,037 Philadelphia, 87 8 c. 830 Demerara, 200 1,700 Martinique, 65 2 651 Ghent, 10 93 Antwerp, 35 315 Hamburg, 250 2,258			Caustic Soda— Falklands, 4 c. £8 Mauritius, 1 t. 12 Brixane, 8 5 62 Algoa Bay, 2 4 57 Townsville, 3 6 E. London, 7 7 Philadelphia, 121 7 963 Sydney, 3 7 61 Wellington, 4 8			Coal Products— Alizarine Lisbon, 2 cks. 2 Reval, 9 cs. 4		
Acid— Adelaide, 1 ck. £15			Arsenic— Calcutta, 20 drs. £35			Aniline Dyes Sydney, 1 ck. 1			Aniline Oil Newport News, 6 drs. 2		
Alkali— Timaru, 5 c. £10			Bisulphite of Lime— Calcutta, 2 t. 8 c. £45			Aniline Salts Genoa, 22 cks. £2			Anthracene Rotterdam, 101 cks. £2		
Alum— Salonica, 20 t. 3 c. £115			Boracic Acid— Melbourne, 4 cks. £37			Benzol Terneuzen, 20 drs. 6			Rotterdam, 11 pms.		
Ammonia (Liquid)— Cadiz, 9 t. £90			Borax— Sydney, 10 c. £10			Antwerp, 10 bls.			Hamburg, 71 cks.		
Calcutta, 25 drs. 250			Algoa Bay, 2 t. 10 c. 43			Carbolic Acid Napier, 12 cks. 1			Antwerp, 37 pks.		
Ammonium Carbonate— Malta, 10 c. £16			Melbourne, 20 kgs. 21			Hamburg, 8			Creosote		
Cologne, 2 t. 14 89			Natal, 1 22			Dieppe, 23,500 galls.					
Ammonium Chloride— Auckland, 1 t. 10 c. £35			Carbon Bisulphide— Adelaide, 10 cs. £14								
Batoum, 2 74			Carbonic Acid Gas— Lyttelton, 3 cs. £24								
Genoa, 5 26 115											
Salonica, 2 2 80											
Varna, 2 10 98											

Sulphate Salts	
Alphaline, 1,421 bgs.	£211
Althaline	
urg, 648 bgs.	£113
ie, 3 cks.	24
Alum	
dam, 7 cks.	£20
hn, 113	84
rp, 800 t.	1,525
ndria, 500 brls.	157
	40
Alum Bases	
, 8 drs.	£220
Alum	
urne, 30 drs.	£12
ol	
dam, 81 cks.	£300
Alum Products (otherwise under-)	
y, 55 brls.	£58
Alum Sulphate	
, 2 t. 10 c.	£826
rt, 5	80
y, 10	166
n, 2	34
ca, 1	18
Alum	
ca, 23 t. 1 c.	£58
, 5	8
y, 3	7
Alum of Tartar	
Plymouth, 8 c.	£37
urne, 1 t.	116
and, 1	11
Bay, 10 kgs.	198
	6
Alum Products	
Town, 7 t. 6 c.	32 cs. £32
utta, 626 drs.	5
ide, 10	11
pore, 6	10
, 20	13
ngton, 10	37
	25 cks. 125
Bay, 1	5
burg, 50	250
Alum	
erara, 70 t.	£725
an, 25	100
nsey, 5	10 c.
, 70	937
Alum Acid	
Town, 15 cs.	£14
Alum Acid	
a Bay, 6 cs.	£12
Alum Phosphoric Acid	
ice, 19 c.	£20
Alum	
ington, 19 c.	£47
bourne, 19	47
Alum Salts	
nsville, 4 t. 1 c.	£415
Alum Bichromate	
utta, 1 t. 10 c.	£69
Alum Chlorate	
adelphia, 2 t. 5 c.	£90
Alum Cyanide	
ras, 2 c.	£12
bourne, 10 cs.	162
a Bay, 7 t. 10 c.	1,066
Alum Prussiate	
adelphia, 10 t. 2 c.	£690
bourne, 3	11
Alum Cake	
werp, 170 t.	£398
Alum Petre	
ney, 7 t.	£160
bourne, 16 c.	149
enburgh, 1	22
Video, 1	13
Alum Dip	
bourne, 9 t.	£320
London, 3	100
a Bay, 14	487
aru, 140 drs. 20 cks.	242
al, 8	14 c.
ayres, 186 t.	3
	8,088
Alum	
erara, 200 t.	£500
Alum	
telton, 20 t.	£65
bourne, 2	15
ney, 2	10 c.
ghai, 3	5
Alum Ash	
aru, 1 t. 12 c.	£11
Alum Crystals	
ca Bay, 2 t. 11 c.	£7
ne Town, 1	4
Alum Acetate	
bourne, 2 t. 1 c.	£29

Sodium Bicarbonate	
Reval, 1 t.	£3
Sodium Carbonate	
Algoa Bay, 6 c.	£5
Sulphuric Acid	
Cape Town, 1 t. 18 c.	£18
Colombo, 3	15
Guernsey, 13 carboys	10
Superphosphate	
Mauritius, 52 t.	£130
Superphosphate of Lime	
Martinique, 235 t.	£960
Tartaric Acid	
New Plymouth, 4 c.	£25
Algoa Bay, 4	27
Rangoon, 4 cs.	24
Townsville, 3	17
Melbourne, 10	63
Auckland, 10	3 kgs. 81
Sydney, 4 cks. 1 t.	20

LIVERPOOL.

Week ending December 11th.

Acid	
Santos, 1 ck.	
Alkali	
Boston, 20 cks.	
Alum	
Varna, 1 t. 8 c.	£6
Patras, 2	7
Casablanca, 1	5
Mogador, 5	2
Syria, 1	17
Portland, O., 45	3
M. Video, 5	15
Pernambuco, 1	1
Samsoun, 8	51
Salonica, 5	4
Smyrna, 2	5
Alumina Sulphate	
Boston, 1 t. 1 c.	£30
Ammonium Carbonate	
Melbourne, 1 t.	£38
B. Ayres, 7 c.	12
Ammonium Chloride	
Philadelphia, 26 t. 11 c.	2 q. £717
Malta, 1	6
Trieste, 1	35
Alexandria, 1	37
Yokohama, 10	13
Iquique, 10	17
Patras, 3	7
New York, 5	18
Smyrna, 1	8
Ammonium Sulphate	
Baltimore, 24 t. 18 c.	1 q. £281
Valencia, 25	5
New York, 25	11
Gd. Canary, 30	13
Las Palmas, 21	5
Samarang, 28	1
Newport News, 277	17
Asbestos	
Mollendo, 8 cs.	
Iquique, 4 bls.	
Penang, 40 bgs.	
Valparaiso, 2	
Bleaching Powder	
Baltimore, 458 cks.	
Boston, 969	
B. Ayres, 30 brls.	
Genoa, 33	
Melbourne, 34	
Naples, 50	
Newport News, 245	
New York, 415	
Philadelphia, 280	
Rouen, 26 cs.	
Bilbao, 26	
Ghent, 68	
Hamburg, 16	
Leghorn, 19	
Montreal, 24	
Patras, 7	
Portland, Or., 15	
Rotterdam, 18	
Bone Waste	
Rouen, 5 t. 10 c.	£40
Boracic Acid	
Antwerp, 15 c. 1 q.	£20
Hio, 4 t. 16	2
Hong Kong, 3	3
New York, 10	16
Yokohama, 1	4
Rotterdam, 10	14
Adelaide, 1	23

Borax	
Rotterdam, 19 t. 13 c.	£402
Venice, 15	1 q. 15
Genoa, 10	50
Yokohama, 3	9
Sydney, 1	1
Barcelona, 5	100
Cadiz, 10	1
Algoa Bay, 1	22
Patras, 8	3
Valparaiso, 4	1
M. Video, 10	10
Antwerp, 1	19
Adelaide, 1	10
Brisbane, 1	30
Calcium	
Sydney, 9 t. 18 c.	£23
Calcium Chloride	
Bombay, 2 t. 12 c.	£6
New York, 10	3
Boston, 50	100
Caoutchouc	
Porto Alegre, 1 cs.	
Carbolic Acid	
Calcutta, 2 cs. 1 t. 5 c.	£51
Rouen, 1	1
Rotterdam, 16	569
Portland, M., 1	5
Genoa, 19	2 q. 50
Baltimore, 11	10
New York, 8	2
Castor Oil	
Honolulu, 25 cs.	
Sierra Leone, 5	
Elmina, 10	
Caustic Potash	
San Francisco, 2 t. 14 c.	£96
Caustic Soda	
Aracaju, 10 dms.	
Bahia, 60	
Baltimore, 150	
Boston, 425	
Constantinople, 10	
Genoa, 211	
La Guayra, 32	
Leghorn, 158	
Manila, 150	
Melbourne, 197	
Memphis, 50	
Naples, 31	
N. Orleans, 50	
N'wport N'ws, 1,622	
New York, 375	17 cks.
Odessa, 510	
Oporto, 25	
Pernambuco, 75	
Philadelphia, 475	
Sofia, 34	
Tarragona, 30	10
Venice, 115	50 bxs.
Antwerp, 15	
Barcelona, 110	20
	32 pkgs.
Bombay, 50	
Callao, 60	
Cape Town, 20	
Cartagena, Sp., 20	
Chicago, 60	
Ghent, 10	5 kgs
Hafia, 10	
Hamburg, 100	
Havana, 40	
Havre, 15	
Hong Kong, 3	
Lisbon, 45	
Maranham, 20	
Pt. Natal, 40	
Portland, Or., 50	
Puerto Cabello, 15	
Rio de Janeiro, 22	
Rotterdam, 40	pkgs.
St. John's, N. B., 10	
San Francisco, 725	
San Sebastian, 99	
Santos, 50	
Seville, 24	12 brls.
Sourabaya, 100	
Sydney, 7 cs.	
Trinidad, 18	
Valencia, 30	
Valparaiso, 30	
Vera Cruz, 20	
Wellington, 12	
Chemicals (otherwise undescribed)	
Yokohama, 2 t. 10 c.	£92
Calcutta, 25	5
Antwerp, 18	3 q. 84
Marseilles, 4	33
Hamburg, 2	66
Genoa, 10	17
Manila, 1	2
New York, 5	6
Rotterdam, 1	12
Philadelphia, 13	3

China Clay	
Baltimore, 49 t.	
Barcelona, 88	
Boston, 2,172	
Calcutta, 100	
N. Orleans, 15	
New York, 300 cks.	
Philadelphia, 403	
Rio de Janeiro, 46	
Maranham, 5	
Chloride of Lime	
Pernambuco, 18 c. 2 q.	£11
Citric Acid	
Corunna, 3 c.	£22
Coal Products	
Alizarine Oil	
Lisbon, 2 cks.	
Aniline Colours	
Bombay, 6 cs.	
Aniline Oil	
Genoa, 15 dms.	
Naples, 2 tins	
Aniline Salts	
Bombay, 3 cks.	
Boston, 15 cs.	
New York, 54	
Piræus, 10	
Mirbane Oil	
New York, 25 cs.	
Naphthaline	
Montreal, 6 cs.	
Pitch	
Sierra Leone, 10 brls.	
Tar	
Demerara, 20 brls.	
Tar Salts	
New York, 25 cks.	
Copperas	
Pernambuco, 1 t. 17 c.	3 q. £5
San Francisco, 13	10
Callao, 25	16
Copper Sulphate	
Savannah, 12 c. 2 q.	£11
Bombay, 7 t. 10	125
Leghorn, 6	97
Palermo, 2	1
Melbourne, 5	80
Naples, 4	19
Ghent, 1	8
Genoa, 5	19
Alexandria, 1	9
Almeria, 1	15
Nantes, 51	2
Seville, 7	3
Vera Cruz, 7	7
Corral, 1	16
Algiers, 9	2
Bordeaux, 14	18
Cream of Tartar	
St. John's, N'd'd., 1 ck. 11 c.	2 q. £68
Disinfectants	
Cadiz, 4 c.	£7
Bombay, 2 t.	14
Rangoon, 1	2
Fluor Spar	
Philadelphia, 50 bgs.	
Flux Skimmings	
Bordeaux, 5 cks.	
Glue	
New York, 6 cks. 120 bgs.	
Shanghai, 13	
Rangoon, 15	
Guano	
Tarragona, 10 t.	£85
Indigo Extract	
Philadelphia, 9 c.	£6
Montreal, 1 t.	3 q. 32
Iron Liquor	
Portland, M., 3 t.	£39
Lime	
Hong Kong, 7 c. 1 q.	£6
Lagos, 6 t. 3	6
Maranham, 2	15
Little Popo, 8	6
Demerara, 85	210
Magnesia	
Alicante, 50 cs.	
Vera Cruz, 8	
Magnesium Carbonate	
Santander, 2 t.	£45
Magnesium Chloride	
Bombay, 12 t. 12 c.	£31
Magnesium Citrate	
Alexandria, 4 cs.	
Manila, 4	
Philadelphia, 10	
Magnesium Nitrate	
Alexandria, 2 c.	£16
Magnesium Sulphate	
Rio de Janeiro, 5 t.	
Vera Cruz, 20 kgs.	

Manganese—

Hamburg, 8 cks.

Manganese Ore—

Rio de Janeiro, 3 t. 3 c.

Rotterdam, 80 bgs.

Manure—

Calcutta, 2 cks. 3 c.

New York, 112 t. 1,214

Lisbon, 4 18 2 q. 13

Metallic Sodium—

Rotterdam, 5 t. 12 c. £1,151

Oxalic Acid—

Boston, 24 t. 10 c. £732

Paint—

Alexandria, 2 cks.

Antwerp, 8 8 kgs. 1 brl.

Bombay, 165 dms.

B. Ayres, 6 40

C. C. Castle, 11 13 5

Cavite, 13 10

Colombo, 40 10

Curaçao, 10 10

Gibraltar, 2 cks.

Gijon, 1 40

Gd. Canary, 6 20

Havana, 2 cks. 18 250

Hilo, 2 250

La Plata, 10 11

Malaga, 11 1,045 8 brls.

Manila, 48 20 5

New York, 70 20 5

O'Gow, 12 dms. 3

Philadelphia, 202 10 4

Ponce, 5 36 1

St. Thomas, 36 1

Solonica, 36 1

Saffi, 40 2 pks.

San Juan, 40 101 cs.

Savannah, 101 cs. 4 cs.

Sierra Leone, 10 5 dms.

Valparaiso, 10 5 dms.

Yokohama, 13 50

Bahia, 50 5 dms.

Cadiz, 50 dms.

Cartagena, N.G., 11 240

Demerara, 11 240

Gd. Bassa, 36 5 dms.

Gd. Bassa, 40 5 dms.

Lisbon, 106 5 dms.

Maranham, 1 220

Mayaguez, 10 30 brls.

Mossamedes, 3 24

Para, 105 105

Pernambuco, 20 105

Porto Alegre, 20 105

Rio Grande do Sul, 11

St. John, N.B., 20

Painters' Colours—

Bahia, 24 cs. 1 ck.

Belise, 95 kgs.

Cardenas, 2 10 9 brls.

Hamburg, 1 1 pke.

Lisbon, 1 1 pke.

M. Video, 20 8 brls.

Odessa, 38 8 brls.

Antwerp, 1 20 tns

Calcutta, 4 20 tns

Malta, 1 20 tns

Philadelphia, 1 20 tns

Paraffin Wax—

Penang, 7 brls.

Phosphorus—

Higo, 6 t. £1,410

Shanghai, 2 13 c. 530

B. Ayres, 12 132

Piombago—

Valparaiso, 27 c.

Potash—

San Luis Potosi, 1 c. £14

Potassium Bichromate—

Piræus, 1 t. £42

Portland, O., 7 c. 2 q. 16

Vera Cruz, 1 2 1 50

Potassium Carbonate—

New York, 11 t. 15 c. £210

Potassium Chlorate—

B. Ayres, 10 c. £21

Vera Cruz, 10 24

San Luis Potosi, 1 10

Antwerp, 1 t. 90

Odessa, 1 16 119

Columburg, 11 4 492

Amsterdam, 1 8 12

Rotterdam, 1 45

Rangoon, 1 3 67

New York, 12 511

Higo, 25 586

Rangoon, 10 422

Potassium Prussiate—

Genoa, 18 c. 2 q. £69

Salt—

Abonnema, 10 t.

Antwerp, 160

Barbadoes, 50

Boston, 80

Brass, 20

Calcutta, 35

Cape Town, 2,789

Christiania, 10 18 c.

Conakry, 12 10

E. London, 41 13

Isles de Los, 8 18

Mobile, 6 5

Montreal, 1,431

New York, 10 15

Old Calabar, 1,314

Opobo, 130

Para, 20

Rio de Janeiro, 677

Rotterdam, 1

Savannah, 200

Sydney, 1,055

Adelaide, 57

Aduah, 20

Baltimore, 10

Bombay, 293

Buguma, 6 5

Jacksonville, 100

Lagos, 500

Loango, 100

Manila, 8

Newport News, 12

N. Orleans, 330

Opobo, 750

Philadelphia, 40

Pt. Elizabeth, 1,501

Portland, Me., 8 19

Rio del Roy, 50

Trinidad, 3 17

Salt Cake—

Rotterdam, 248 t. £312

Philadelphia, 220 14 c. 310

Baltimore, 101 3 140

Saltpetre—

Bahia, 5 t. 10 c. 3 q. £131

Syra, 3 7 1 75

Para, 19 3 24

Callao, 1 13 2 39

Maranham, 11 3 15

Sheep Dip—

B. Ayres, 25 dms. 5 t. 13 c. £200

Punta Arenas, 16 18 425

Slag—

Bordeaux, 25 t.

Soap—

Aduah, 100 bxs.

Alexandria, 63 8 cs.

Bakana, 350

Baltimore, 30

Bombay, 2,026 10

Calcutta, 10 10

C. C. Castle, 410 1

Cape Town, 150

Delagoa Bay, 211

Elmina, 50

Gibraltar, 100 20

Gd. Bassa, 50

Honolulu, 75

Hilo, 50 50

Landana, 20

Las Palmas, 150 10

Malta, 10

Manaos, 600

New York, 3,186 10

Old Calabar, 510

Opobo, 800

Para, 500

Philadelphia, 1,026

Portland, 2

St. John's, N.F., 110 2

Salt Pond, 100

Sierra Leone, 20

Singapore, 523

Simoe, 70

Smyrna, 20

Abonnema, 250

Alg. Bay, 60

Antofagasta, 1

Antwerp, 1,800

Barbadoes, 200

Bocas, 50

Boston, 10 cks. 2,000

Cartagena, N.G., 1

Colon, 4

Constantinople, 5

Corfu, 6

Demerara, 400

E. London, 25

Penang, 10

Pernambuco, 5

Pt. Said, 300

Rangoon, 5

Rotterdam, 310

St. John's, N.B., 200

Salonica, 19

San Juan, 100

Shanghai, 3,334

Teneriffe, 224 3

Trinidad, 500

Valparaiso, 2

Soda Alkali—

Alicante, 35 brls.

La Guayra, 40

Leghorn, 40

Melbourne, 80

Piræus, 74

Smyrna, 35

Corfu, 100

Lisbon, 20

Soda Ash—

Boston, 1,980 bgs. 36 cks. 219 tcs.

Genoa, 200 12

Gotenburg, 800

Hamburg, 50

La Guayra, 25 brls.

M. Video, 45

Newport News, 25

Pernambuco, 30

Adelaide, 328

Baltimore, 6,688 383 tcs.

Barcelona, 361

B. Ayres, 14

Callao, 147

Cartagena, N.G., 60

Corfu, 25 brls.

Havana, 100

Maranham, 2

Melbourne, 50 110

New York, 2,560

Patras, 163 tcs.

Philadelphia, 1,930 59

Piræus, 10 brls.

Portland, Me., 91 tcs.

Portland, Or., 25 brls.

Puerto Cabello, 4

Rio de Janeiro, 30

San Francisco, 19

Santos, 200

Sourabaya, 189

Soda Crystals—

Antwerp, 106 brls.

Boston, 336

Philadelphia, 168

Rosario, 10 cks.

S. John's, N.Yd., 125

San Francisco, 200

Bombay, 40 kgs.

B. Ayres, 68

Copra, 17

Halifax, 45

Honolulu, 25

Samarang, 17

Singapore, 6

Sodium Arseniate—

New York, 10 cks.

Passages, 1

Sodium Bicarbonate—

Antwerp, 15 cks. 30 brls.

Lisbon, 30 kgs.

Adelaide, 100 bgs.

Alexandria, 20

Algoa Bay, 17

Alicante, 30

Baltimore, 150 120

Barcelona, 40

Bombay, 269

Bordeaux, 75

Brisbane, 50

B. Ayres, 125

Dakar, 1 ck.

Genoa, 75 9

Halifax, 30

Higo, 300

Honolulu, 10 10

Melbourne, 67

Nagasaki, 200

Newport News, 25

Oporto, 10

Piræus, 20

Portland, Or., 50

St. John's, N.Yd., 20

Smyrna, 20

Trieste, 40

Trinidad, 20

Vera Cruz, 95

Sodium Chlorate—

Boston, 135 kgs.

Hamburg, 24

Rotterdam, 40 10 brls.

Sodium Phosphate—

Passages, 3 cks.

Vera Cruz, 2

Sodium Sulphate—

Boston, 5 cks.

Sulphur—

Halifax, 7 t. 10 c. £29

Boston, 400 7 1,301

Cardenas, 1 11

Natal, 1 10

Sulphuric Acid—

Colon, 6 cs.

HULL.	
<i>Week ending December 7th.</i>	
Iron—	
en, 2 cks.	
Linum—	
terp, 2 cks.	
onium Sulphate—	
eaux, 101 bgs.	
it, 151	
racene—	
erdam, 162 cks.	
erdam, 61	
ol—	
erdam, 143 cks.	
erdam, 24 brls.	
ing Powder—	
bay, 33 cks.	
in, 52	
ie Soda—	
ingfors, 9 cks. 8 cs.	
urg, 8	
icals (otherwise undescribed)	
terp, 1 ck. 1 cs. 3 pks.	
a Bay, 100	
en, 7	
eaux, 40	
bay, 333	25 40
tiania, 8	4 17
979 slbs.	
ig, 5	5
enburg, 15	106
burg, 7	15 20
ingen, 20	
ingfors, 2	7
achee, 335	
York, 72	
il, 50	
erdam, 31	50 8
in, 2	
tholm, 4	10
erdam, 1	9
eed Oil—	
erdam, 1,630 c.	
terp, 705	
en, 70	
ien, 403	
enburg, 30	
burg, 1,121	
erdam, 577	
tholm, 200	
in, 100	
ote—	
York, 500 brls.	
ote Salts—	
ingen, 300 bgs.	
uffs (otherwise undescribed)	
tiania, 1 ck.	
York, 1 kg. 12 dms.	
terp, 2 bgs.	
ingfors, 4 cks.	
o—	
irk, 505 sks.	
ed Oil—	
erp, 40 c.	
ndria, 12	
en, 18	
eaux, 35	
ay, 80	
tiania, 17	
tiansund, 17	
heim, 52	
burg, 322	
achee, 8	
rdam, 290	
nger, 107	
re—	
eaux, 167 bgs.	
erdam, 20 cks.	
erp, 6	
ers' Colours—	
erp, 1 ck. 1 cs. 60 dms.	
ndria, 2 pks.	
ay, 30	134 369
tiansand, 2	40 kgs.
tiania, 2	
irk, 2	
t, 22	
burg, 54	4
ngen, 4	
ngfors, 2	
York, 118	2
rdam, 3	2
n, 24	1
holm, 5	
erp, 56 t.	
irk, 200	
Dip—	
ay, 6 cks.	

Starch—	
Stockholm, 10 bgs.	
Tallow—	
Stockholm, 25 cks.	
Tar—	
Amsterdam, 18 cks.	
Antwerp, 4	
Rotterdam, 9	1 dm.
Tar Oil—	
Bombay, 6 cks.	
Varnish—	
Antwerp, 1 cs.	
Bordeaux, 3 cks.	
Bombay, 75 dms.	
Christiania, 1	
Danzig, 1	
Gothenburg, 1	
Stettin, 10	

GLASGOW.

Week ending December 12th.

Albumen—	
Canada, 3,600 lbs.	£56
Ammonium Chloride—	
Gothenburg, £25	
Milan, 80	
Ammonium Sulphate—	
Barcelona, 50 t. 14½ c.	
Calcutta, 7	
Charente, 152	1¼
Rotterdam, 51	
Philadelphia, 15	4½
Cullera, 204	2½
Valencia, 96	15½
Asbestos—	
Singapore, £38	
Boiler Composition—	
Christiania, £50	
Boracic Acid—	
Yokohama, £91	
Borax—	
Melbourne, £61	
Caustic Soda—	
U.S.A., 29 t. 18 c.	
Chloroform—	
Canada, £20	
Coal Products—	
Creosote Oil	
Christiania, £11	
Naphtha	
Rouen, £40	
Pitch	
Genoa, 10 t. 13 c.	
Hamburg, 21	
Rotterdam, 21	
Tar	
Boston, £112	
Calcutta, 86	
Madras, 49	
Cod Oil—	
Brisbane, £23	
Dyestuffs—	
Extracts	
Canada, £89	
Montreal, 145	
Toronto, 123	
Barcelona, 55	
Dyestuffs (otherwise undescribed)	
Gothenburg, £32	
Farina—	
U.S.A., £31	
Gelatine—	
U.S.A., £209	
Iodine—	
Rotterdam, £366	
Lead Nitrate—	
Paris, 10 t. 11¼ c.	
Linseed Oil—	
Colombo, 14½ c.	
Montreal, 14½ c.	
Hong Kong, 1 t. 6½	£98
Yokohama, 1	5
Melbourne, 1	1½
Magnesium Sulphate—	
Christiania, £61	
Manganese—	
Rotterdam, 4 t. 4 c.	
Molasses—	
Rotterdam, 1 t. 1 c.	
Paint—	
Calcutta, £101	
Penang, 32	
Singapore, 53	
Trinidad, 37	
Saigon, 39	
Yokohama, 93	

Hong Kong, 36	
Hiogo, 35	
Painters' Colours—	
Calcutta, £167	
Colombo, 86	
Singapore, 39	
Adelaide, 31	
Fremantle, 85	
Hong Kong, 235	
Manila, 28	
Melbourne, 6 t. 1½ c.	
Paraffin Wax—	
Rouen, £82	
Arendal, 21	
Barcelona, 105	
Genoa, 8 t. 8½ c.	
Riga, 35	
Trinidad, 131	
Phosphoric Acid—	
Trinidad, £31	
Potash Salts—	
Canada, 1 t. 3¼ c.	
Singapore, £24	
Potassium Bichromate—	
Barcelona, £947	
Hiogo, 401	
Stockholm, 106	
Rotterdam, 70	
Yokohama, 304	
Potassium Prussiate—	
Drontheim, £8	
Soap—	
Colombo, 1 t. 5 c.	
Barbadoes, 3	7
Sodium Bichromate—	
Barcelona, 13 t. 16¼ c.	
Sulphur—	
Trinidad, £45	
Sulphuric Acid—	
Madras, £252	
Tallow—	
Christiania, 13 c.	
Stockholm, 1 t. 3	
Rotterdam, 5	9
Treacle—	
Pt. Elizabeth, 2 t. 10 c.	
Bergen, 11	14
Christiania, 24	19
Gothenburg, 6	18
Stockholm, 10	
White Lead—	
Pt. Natal, £04	
Pt. Elizabeth, 31	

TYNE.

Week ending December 7th.

Alkali—	
Abo, 2 t. 16 c.	
Nakskov, 10	
Riga, 5	12
Rotterdam, 17	5
Gothenburg, 5	8
Venice, 7	18
Alumina—	
Copenhagen, 11 c.	
Antimony—	
Hamburg, 5 t.	
Antwerp, 1	
Rotterdam, 5	
Arsenic—	
Gothenburg, 5 t. 18 c.	
Venice, 15	17
Barytes—	
Antwerp, 5 t.	
Gothenburg, 1	
Bleaching Powder—	
Abo, 56 t. 15 c.	
Christiania, 19	8
Rotterdam, 8	15
Riga, 2	16
Copenhagen, 51	6
Antwerp, 5	1
Gothenburg, 30	6
Venice, 14	4
Hamburg, 100	8
Carbolic Acid—	
Rotterdam, 5 t. 12 c.	
Caustic Soda—	
Abo, 65 t. 13 c.	
Rotterdam, 21	19
Genoa, 10	3
Riga, 17	13
Copenhagen, 7	
Antwerp, 5	8
Valencia, 10	3
Venice, 37	14
Hamburg, 4	18
Copperas—	
Hamburg, 10 c.	

Litharge—	
Hamburg, 6 t. 7 c.	
Magnesia—	
Hamburg, 8 c.	
Venice, 3 q.	
Manure—	
Genoa, 100 t. 1 c.	
Valencia, 285	
Oxalic Acid—	
Venice, 7 c.	
Paint—	
Constantinople, 18 c.	
Paraffin Wax—	
Abo, 1 t.	
Saltpetre—	
Abo, 9 c.	
Soda—	
Abo, 14 t. 15 c.	
Christiania, 10	
Nakskov, 10	15
Rotterdam, 39	19
Genoa, 6	9
Hamburg, 21	11
Antwerp, 50	2
Constantinople, 8	2
Gothenburg, 13	6
Svendborg, 18	12
Venice, 16	13
Soda Ash—	
Gothenburg, 85 t. 18 c.	
Bergen, 5	
Venice, 61	10
Sodium Hyposulphite—	
San Francisco, 25 t.	
Sodium Sulphate—	
Drammen, 50 t.	
Sulphur—	
Christiania, 106 t. 1 c.	
Drammen, 100	
Gothenburg, 35	
White Lead—	
Hamburg, 1 t. 1 c.	
Christiania, 2	10
Copenhagen, 1	
Hamburg, 2	5

GOOLE.

Week ending December 4th.

Alkali—	
Ghent, 1 ck.	
Benzol—	
Boulogne, 48 cks.	
Rotterdam, 49	20 dms.
Chemicals (otherwise undescribed)	
Rouen, 27 pkgs.	
Coal Products (otherwise undes.)—	
Antwerp, 50 cs.	
Boulogne, 1 ck. 6	
Ghent, 2	
Hamburg, 9	8
Rotterdam, 218	1
Colours—	
Boulogne, 1 cs.	
Dunkirk, 20 dms.	
Hamburg, 1	
Dyestuffs (otherwise undescribed)	
Ghent, 3 cks.	
Pitch—	
Antwerp, 669 t.	
Dunkirk, 300	

GRIMSBY.

Week ending December 7th.

Alkali—	
Hamburg, 24 cks.	
Coal Products (otherwise undes.)—	
Antwerp, 1 cs.	
Dieppe, 119 cks. 2	
Hamburg, 3	40 pkgs.
Rotterdam, 9	
Colours—	
Antwerp, 1 ck.	
Dieppe, 1 cs.	
Hamburg, 5	
Rotterdam, 1	
Dyestuffs (otherwise undescribed)	
Dieppe, 1 cs.	
Manure—	
Dieppe, 267 bgs.	
Pitch—	
Antwerp, 57 t.	
Soap—	
Dieppe, 12 cs.	

PRICES CURRENT.

WEDNESDAY, DEC. 18TH, 1895.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—

	£	s.	d.
Acetic, 25 % and 40 %	per cwt.	6/	9/-
Glacial	"	10/-	
Arsenic S.G., 2000°	"	0	16 0
Fluoric	per lb.	0	0 3½
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0 10
(Cylinder), 30° Tw.	"	0	3 0
Nitric 80° Tw.	per lb.	0	0 1½
Nitrous	"	0	0 1¼
Oxalic	nett	0	0 3½
Phosphoric, 1750°	"	0	1 1
Picric	"	0	0 10
Sulphuric (fuming 50 %/.)	per ton	15	10 0
(monohydrate)	"	5	10 0
(Pyrites, 168°)	"	3	0 0
" " 150°	"	1	5 0
(free from arsenic, 145°)	"	1	7 6
Sulphurous (solution) S.G. 1025	"	3	0 0
Tannic (pure)	per lb.	0	1 0
Tartaric	"	0	1 2
Arsenic, white powdered	nett per ton	15	15 0
Alum (loose lump)	"	4	12 6
Alumina Sulphate (pure)	"	4	12 6
Aluminoferrous	"	2	7 6
Aluminium	per lb.	0	2 10
Ammonia, Anhydrous	"	0	1 3
" 880=28° B.	per lb.	0	0 3
" =24° B.	"	0	0 2½
Carbonate	nett	0	0 3½
Muriate	per ton	22	15 0
(sal-ammoniac) 1st & 2nd	per cwt.	39/-	37/-
Nitrate	per ton	38	10 0
Phosphate	per lb.	0	0 6½
Sulphate (grey) London	per ton	8	12 6
(grey) Hull	"	8	12 6
Aniline Oil (pure)	per lb.	0	0 8
Aniline Salt	"	0	0 6½
Antimony	per ton	30	5 0
(tartar emetic)	per lb.	0	0 7½
(golden sulphide)	"	0	0 10
Barium Chloride	per ton	6	7 6
Carbonate (native)	"	3	5 0
Sulphate (native levigated)	"	42/6	to 65/-
Bleaching Powder, 35 %	nett	7	0 0
Liquor, 7 %	"	3	10 0
Bisulphide of Carbon	"	13	5 0
Chromium Acetate (crystal)	per lb.	0	0 6
Calcium Chloride	per ton	2	2 6
China Clay (at Runcorn) in bulk	"	15/-	to 30/-

Coal Tar Products and Dyes:—

Alizarine (artificial) 20 %	nett per lb.	0	0 7½
Magenta	"	0	3 9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0 11½
Benzol, 90 %	per gallon	0	2 4
50/90	"	0	2 2
Carbolic Acid (crystallised 40°)	per lb.	0	0 6½
(crude 60°)	per gallon	0	1 8½
Creosote (ordinary)	"	0	0 1½
(filtered for Lucigen light)	"	0	0 2
Crude Naphtha 30 % @ 120° C.	"	0	0 10
Grease Oils, 22° Tw.	per ton	2	10 0
Pitch, f.o.b. Liverpool or Garston	"	1	14 6
Solvent Naphtha, 90 % at 160°	per gallon	0	1 6
" Lucigen " and " Wells " Oils	"	0	0 2½
Copper	per ton	42	16 3
Sulphate	"	16	5 0
Oxide (copper scales)	"	41	10 0
Glycerine (crude)	"	30	0 0
(distilled S.G. 1250°)	"	75	0 0
Iodine	nett, per oz.	0	0 7½
Iron Sulphate (copperas)	per ton	1	5 0
Sulphide (antimony slag)	"	2	0 0
Lead (sheet) for cash	"	12	12 6
Litharge Flake (ex ship)	"	14	0 0
Acetate (white)	"	21	10 0
brown	"	16	0 0
Carbonat (white lead) pure	"	16	0 0
Nitrate	"	19	0 0

Lime, Acetate (brown) (ex ship)	per ton	5	5 0
(grey)	"	8	0 6
Magnesium (ribbon and wire)	per oz.	0	1 1
Chloride (ex ship)	per ton	2	7 6
Carbonate	per cwt.	1	17 6
Hydrate	per ton	17	0 0
Sulphate (Epsom Salts)	per ton	3	0 0
Manganese, Sulphate	"	17	0 0
Borate	per cwt.	2	15 0
Ore, 70 %	per ton	3	10 0
Methylated Spirit, 61° O.P.	per gallon	0	1 9
Naphtha (Wood), Solvent	"	0	3 0
Miscible, 60° O.P.	"	0	2 11

Oils:—			
Cotton-seed	per ton	18	0 0
Linseed	"	21	0 0
Petroleum, American	per gallon	0	0 7½
Stearine	per ton	24	10 0
Phosphorus (yellow)	per lb.	0	2 2
(red)	"	0	2 8
Potassium (metal)	per oz.	0	3 7
Bichromate	nett per lb.	0	0 4½
Carbonate, 90% (ex ship)	per ton	17	5 0
Chlorate	per lb.	0	0 4½
Cyanide, 98%	"	0	1 4
Hydrate (Caustic Potash) 90%	per ton	24	15 0
(Caustic Potash) 75/80%	"	21	10 0
(Caustic Potash) 70/75%	"	20	0 0
Nitrate (refined)	per cwt.	1	1 6
Permanganate	per cwt.	2	17 6
Prussiate Yellow	per lb.	0	0 8
Sulphate, 90 % (ex ship)	per ton	9	15 0
Muriate, 80 % (do.)	"	8	10 0
Silver (metal)	per oz.	0	2 4½
Nitrate	"	0	2 0
Sodium (metal)	per lb.	0	2 11
Carb. (refined Soda-ash) 48 %	nett per ton	4	15 0
(Caustic Soda-ash) 48 %	"	4	5 0
(Carb. Soda-ash) 48%	"	4	0 0
(Alkali) 58 %	"	3	17 6
(Soda Crystals)	"	2	2 6
Acetate (ex-ship)	"	14	0 0
Arseniate, 45 %	"	11	10 0
Chlorate	per lb.	0	0 6½
Borate (Borax)	net, per ton	19	0 0
Bichromate	per lb.	0	0 13
Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	"	9	5 0
(74 % Caustic Soda)	"	8	7 6
(70 % Caustic Soda)	"	7	7 6
(60 % Caustic Soda)	"	6	7 6
(60 % Caustic Soda, cream) (f.o.b.)	"	6	7 6
Bicarbonate	"	6	10 0
Hyposulphite	"	5	10 0
Manganate, 30%	"	10	0 0
Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7 6
Nitrite, 98 %	per ton	30	0 0
Phosphate	"	13	5 0
Silicate (glass)	per ton	4	10 0
(liquid, 100° Tw.)	"	3	10 0
Stannate, 40 %	per cwt.	3	2 9
Sulphate (Salt-cake)	per ton	1	7 6
(Glauber's Salts)	"	1	10 0
Sulphide	"	8	0 0
Sulphite	"	5	5 0
Strontium Hydrate, 100%	"	8	10 0
Sulphocyanide Ammonium, 95 %	per lb.	0	0 4½
Barium, 95 %	"	0	0 4½
Potassium	"	0	0 7
Sulphur (Flowers)	per ton	7	0 0
(Roll Brimstone)	"	5	0 0
Brimstone: Best Quality	"	3	12 6
Superphosphate of Lime (26%)	"	2	7 6
Tallow	"	23	10 0
Tin Crystals	per lb.	0	0 13
English Ingots	per ton	65	0 0
Zinc (Spelter)	"	24	11 3
Chloride (solution, 100° Tw.)	"	5	5 0

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ADVERTISEMENT.

LY TRAINED CHEMIST, with eight years' experience, desires Engagement. Now managing Alkali Works. in Technical Research Work. Excellent testimonials.—F. B. B., *Trade Journal Office*, Manchester.

ANNUAL SPECIAL ISSUE, 1896.

al Double New Year Number of the **CHEMICAL TRADE** to be issued on January 18th, 1896, will contain a number of technical articles, in addition to the other special features. Advertisers are requested to consult our advertising for further particulars.

ADVERTISERS and others will oblige by ordering extra copies as possible,

ESPECIALLY for the CONTINENT and ABROAD.

Notices.

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Advertisements intended for insertion in the current week's issue should be sent to the office by Thursday morning at the latest.

BEET ROOT CULTIVATION EXPERIMENTS.

IT is an accepted fact that sound deductions cannot be drawn from experiments in agriculture when the results of only one or two years are available.

This argument has been constantly relied upon by those who appear to take up a hostile position regarding the proposition that farmers should try beet root cultivation in their present distress. It can hardly be deemed tenable any longer, however, as those who wish to judge for themselves can now consult the returns of the last seven years.

It is noteworthy that in every year the net result has been satisfactory. Isolated cases of indifferent success can be located no doubt, but if it is misleading to judge by one year's trial only, it is equally misleading to give undue consideration to the less successful results, especially when they constitute a minority.

Our interest in agricultural depression is a very indirect one, and therefore we may claim to rank as impartial critics. What strikes us most forcibly is that, while complaints are heard on all sides about non-paying crops, so little effort is made to ascertain the truth about any new crop that is proposed, and that promises to prove remunerative. Some pessimistically-minded farmer expresses his opinion that there is nothing in it, and immediately half-a-dozen others accept his dictum, and repeat it to their brother farmers without a second thought as to the soundness of the critic's judgment, or the depressing circumstances that were influencing his mind at the time. This tendency is rendered more prevalent by the adverse view taken by some agricultural experts who, though undoubtedly capable men, seem content in regard to this particular question to reiterate their belief that there is no future in beetroots, without establishing the premises of their conviction. If asked why they don't think the suggestion to try beet cultivation is any good, their answer generally amounts to merely stating, "Because we don't." This is an easy way of disposing of the matter, but it is suggestive of the man who would contend that he knew two tunes, because one was "God save the Queen" and the other wasn't, and, if a convenient answer, is hardly a satisfying one.

Turning to the experiments themselves, the results as regards sugar contents are decidedly good, the average percentage of sugar per 100 parts of juice for the fourteen trials on four different seeds ranging from 13.67 to 16.14 per cent., according to the quality of the seed.

The two largest crops were 37 tons per acre, with 15.68 and 16.96 per cent. sugar, these crops being grown on heavy silt after barley in 142 and 158 days respectively, using farm dung and 4 cwt. of superphosphate, with 1 cwt. of ammonium sulphate, per acre.

A third good crop of 19 tons per acre, with the same sugar contents, was obtained in 144 days on heavy fensilt after wheat, with 10 loads of farm dung and 1 cwt. of superphosphate per acre. Another crop under similar circumstances was produced in 158 days, testing 16.96% sugar.

A satisfactory crop appears to have been obtained after onions on a medium soil, with no manure or fertiliser at all, but the weight of the crop per acre is unfortunately not given.

The principal point that strikes us on looking into the figures for this year is the remarkably poor crops obtained after sugar-beets themselves. Superphosphate and nitrate were freely employed, but the yield per acre was small. The quality was the same as for the better crops. The use of a little potassic fertiliser might have proved beneficial, we think, and it appears to be an important consideration whether it would not be advisable to give some results showing the amounts of fertiliser required for second crops as compared with the first, in conjunction with some information as to the best "artificial" to be used with different soils.

The results of the past seven years, however, show that beet-roots can be grown here as well as abroad, and also trade returns show that there is a good market for the sugar made. The position at present therefore is, Who will come forward to assist in once again giving a fair trial to the Lavenham works, a thing they have so far scarcely had? The cost would not be great if shared by three or four large landowners, who would be acting for their own benefit as well as that of others. "Nothing venture, nothing have," is an old saying, and if agriculture is so badly in want of a "something," the spirit of venture in moderation must be exercised.

INSPECTION OF COTTON FOR USE IN THE MANUFACTURE OF GUNCOTTON.

By CHARLES E. MUNROE.

WHEN converting cotton into guncotton by immersion in mixed acids, as practised in the Abel process, it is essential that the cotton should rapidly absorb the acid, for if the portion that is taken for immersion be but slowly absorbent, it is likely when but partly saturated to rise to the surface of the acid and on exposure to undergo the rapid decomposition technically called "firing." To secure the desired result the cotton should be free from oil, grease, and any protecting body. Their presence not only diminishes the absorptive power of the cotton, but they, in common with the knots, tangles, cops, hulls, seeds, or similar foreign bodies, promote decomposition. It is a common practice to use weaver's waste, or waste from the cotton gauze factories, in this manufacture on account of its cheapness, and because it is found also that the thready form permits of ready handling in the hand-dipping and its compactness diminishes the amount of air which becomes entangled in the mass, as compared with that entangled in a similar mass of cotton "in the wool," and consequently the buoyancy of the mass is less.

Such waste necessarily becomes soiled with oil or grease, to a greater or less degree, during the carding and spinning, and it may contain besides knots, cops, tangles, and foreign bodies of various kinds, which latter are removed by means of the picker, while the oil and grease are removed by boiling with soda lye. Hence in determining the relative value of various samples of cotton offered for purchase, the relative amount of the grease, foreign bodies, and waste to be removed, and of knots and tangles present, together with the general cleanliness of the sample are to be considered.

Based on considerations such as these, the method of inspection is as follows:

1. Optical examination for colour, cleanliness, presence of cops, knots, tangles, and foreign bodies, and for relative length and strength of fibre.
2. Odour.
3. Moisture, which is determined by drying a portion at 100° C. to constant weight.
4. Ether extract, which is determined by subjecting the weighed sample to the action of petroleum ether (boiling-point 50°-80°C.) in a Soxhlet extractor until the sample ceases to lose weight. The method

of procedure is to expose the weighed sample in a light glass basket ten automatic exhaustions, when it is removed, dried and weighed; is then returned to the extractor and subjected to five automatic exhaustions, when it is again dried and weighed. If it has lost by the last treatment the basket and contents are again returned to the extractor and exhausted three times, and this treatment is repeated until the weight becomes constant.

The weight of the samples taken in the experiment varied by one and one and a half grams and the extractor had a capacity of for each automatic exhaustion. The ether extracts the oily matter from the cotton, both those which occur naturally and those which are absorbed in the processes to which it has been subjected.

5. Soda-lye extract, which is determined by boiling the weighed sample for eight hours in a solution of sodium hydroxide of the same strength and in the same proportions as that used in the factory first boiling tub. For this purpose the waste, if in long bundles, into pieces about one inch long, and ten grams of it placed in a beaker of about a half-litre capacity, 104 c.c. of a solution of caustic soda containing 17.305 grams to the litre (thirty-five pounds to 250 gal. water) are poured upon it, and the boiling carried on for eight hours fresh water being added from time to time to keep the solution of constant volume. At the end of eight hours the liquid is poured from the sample placed in a cotton filter, where it is squeezed and washed with hot water until the wash water gives no alkaline reaction; the sample is then dried to constant weight.

6. Ash, which is determined by placing from one to one and one half grams of the sample in a weighed platinum crucible, pouring paraffin upon the mass, igniting it from the top, allowing it to burn slowly until the flame dies out, and then igniting the residue to constant weight.

7. Rate of absorption of water. In making this test a sample of material is thrown or dropped lightly on the surface of distilled water and the time between when it touched the surface and when it sank to the bottom (the absorption of the water by capillarity) it sinks to the bottom. One of the requisites for cotton suitable for making smokeless powder is that it shall sink in two minutes. In these experiments the samples were tested not only in the condition in which they were received, but also after treatment with ether, after drying for moisture, and after boiling with soda-lye, all being in the dry state. The vessel used was of diameter from three to six inches, while the temperature of the water varied from 20° to 25° C. These differences, or that of the form of the pellet, seemed to produce no effect, but special care must be paid to having distilled water with a perfectly clean surface. With the same sample of cotton there were considerable variations in the time of sinking to the bottom of the vessel, although the surface was fairly constant. The fact that the mass remained on the surface after saturation was found usually to be due to a bubble of air entangled in the mass which buoyed it up, or, less often, to a portion of the mass being non-absorbent. This condition was noted on inspection, as the non-absorbent portion of the sample remained opaque, while the absorbent portion appeared translucent. When absorption failed to begin at once it usually did not take place even after twenty-four to forty-eight hours' exposure, or even when the whole mass was forcibly plunged beneath the water, in fact in such cases there seemed to be an actual repulsion between the water and the fibre. As what we seek to learn by this test is the relative rate at which the cottons tested will suck up the mixed acids during the process of nitration, it would seem sufficient to note the moment at which they became thoroughly wet and submerged beneath the surface.

The detailed results obtained with five samples submitted at our disposal are as follows:

(1.) *Sample 1.*—Off white, yellowish tint. Cop waste. No knots. Long threads, somewhat tangled. Free from dirt and rust spots. Strong fibre.

Sample 2.—Off white, yellowish tint. Cop waste. No cops in sample. No knots. Long threads, somewhat tangled. Free from dirt. Strong fibre.

Sample 3.—Off white, yellowish tint. Long threads, free from knots. Free from dirt. Strong fibre.

Sample 4.—White. Partly short threads and partly loose fibres picked. Has evidently undergone special treatment. No cops, knots, or dirt, but a few rust spots.

Sample 5.—White. Whole fibrous, and woolly, as if picked, fibres being not over an eighth of an inch in length. Has evidently undergone special treatment. No cops, knots, tangles, or dirt, few dark specks.

(2.) *Sample 1.*—Faint odour of oil.

" 2.—Very faint odour of oil.

" 3.—Marked odour of oil.

" 4.—Very faint odour of oil.

" 5.—Very faint odour of naphtha (?)

percentages of moisture, ether extract, soda-lye extract, and 4, 5, and 6) are given in the following table:—

Sample	Moisture.	Ether extract.	Soda-lye extract.	Soda-lye extract less moisture and ether extract.	Ash.
4	93	0.97	9.16	3.26	0.86
5	79	0.49	10.36	5.08	0.75
6	17	1.20	9.26	2.80	0.80
4	36	0.53	13.69	8.80	0.61
4	69	0.09	7.58	2.80	0.40

the rates of absorption of water found was as follows:—

Original condition of sample.	After exhaustion with petroleum ether.	After boiling in soda-lye.	After drying for moisture determination.
Min. Sec.	Min. Sec.	Min. Sec.	Min. Sec.
∞	∞	2 00	∞
		1 00	
		2 00	
		2 00	
		1 00	
∞	∞	1 40	∞
		50	
		3 30	
∞	∞	∞	∞
{ 3 15	{ 60	{ 10	{ 3 00
{ 5 15	{ 45	{ 8	{ 4 00
{ 1 15		{ 7	{ 7 45
		{ 3	
	{ 45	{ 10	
	{ 45	{ 4	∞
	{ 20	{ 4	
	{ 43		

∞ No submersion after twenty-four hours' exposure.

appearance of the ash and of the soda-lye after extraction are of notice. In samples 1, 2, and 3, the ash obtained was of a green colour, the green portion being soluble in water, leaving a residue, which was insoluble. The ash of samples 4 and 5 was of a brownish colour. The colour seemed to be due, in each case, to iron, in the ferrous condition in the first three cases and the ferric in the two. As the latter evidently have been bleached with chlorine, the iron would naturally oxidise the iron.

After boiling the lye with the cotton began, the former, which was colourless at the start, began to acquire a colour, which increased in intensity for some hours. In the case of samples 1, 2, and 3, the operation was finished, was of a pale sherry wine colour, while No. 5 was of a deep sherry wine colour.

In this examination the samples are divided into two classes, viz., long and short fibre, treated cotton. Samples 1, 2, and 3 being of the first class and samples 4 and 5 in the second.

Short-fibred cotton cannot be nitrated successfully with the usual reagents, and the presence of chlorine is objectionable, as the celluloses produced from such cotton cannot be washed neutral.

For cop wastes, which are adapted to our present methods of treatment, sample 1 seems on the whole to be the best, though it is inferior to sample 2.

The observations made it was found that in eighteen samples of waste—

Moisture varied from 3.38 to 8.40 per cent.

Ether extract from 0.00 to 7.10 per cent.

Soda-lye extract from 3.53 to 5.36 per cent.

Ash from 0.05 to 1.79 per cent.

Rate of absorption after soda-lye extraction from one second to twenty-four hours.

Sample of cottonseed lint gave—

Sample	Ether extract.	Soda-lye extract.	Ash.	Rate of absorption.
5	2.35	28.54	4.83	∞

Sample of waste cotton gauze gave—

Sample	Ether extract.	Soda-lye extract.	Ash.	Rate of absorption.
7	0.50	3.89	.95	7 seconds.

Notes of absorption quoted are for samples dried after receiving soda-lye treatment. As indicated above, observations were made on the original sample and after treatment with ether and after drying. The highest rate was obtained after treatment with soda-lye; many samples being still non-absorbent after treatment with ether.

Treatment with the soda-lye even improved the absorbent power of samples of "Absorbent Cotton" submitted for testing, the rate

being increased from three seconds for the dried, untreated cotton, to one second for that which has been treated.

Experiments were made on the absorptive capacity of the cotton, and in one case a six-gram sample of absorbent cotton was found to retain ninety-three grams of water or 15.5 times its own weight.

LECTURES ON LEATHER AT THE YORKSHIRE COLLEGE.

DURING next session Mr. H. R. Procter, F.I.C., will deliver a series of lectures at the Yorkshire College, Leeds, on leather, with experimental demonstrations. The course commences at seven p.m. on Wednesday, January 15th, 1896. The subjects of the lecture will be "Recent Processes in Leather Manufacture," and will include the tanning of chrome and Dongola leathers, rapid processes for sole leather, &c.

Moderate as is the fee of ten shillings and sixpence charged by the college for the course of ten lectures and demonstrations, and of fifteen shillings for two courses, there is, nevertheless, ground for supposing that it is something of an obstacle to many young men. Institutions which work in connection with South Kensington, as do most of those which conduct science and art classes, are able to give evening instruction at almost nominal fees, in consideration of the large grants earned upon "results." The authorities of the Yorkshire College have from the outset avoided seeking to benefit by this source of revenue, believing it to be of the first importance that their lecturers should teach to their own syllabuses, and not to those of an external body. They are therefore under the necessity of charging higher fees than are charged by institutions which work in connection with the Science and Art Department at South Kensington.

Under these conditions the Leather Industries Committee think it probable that many gentlemen in the leather trades who are in sympathy with the work which the college is carrying on in its evening classes, and who desire to see larger advantage taken of this teaching in the future, may be willing to give some little pecuniary assistance to young men employed in their businesses who enter as evening students. And the committee would suggest that this could most conveniently be done by an offer on the part of employers to make a return at the close of the course of lectures of half the fee paid to the college by the student, provided that he has given regular attendance and has passed a satisfactory college examination.

GERMAN IRON PRODUCTION.—According to statistics just published the output during the month of November of pig-iron by the furnaces of the south-western group of the German Iron and Steel Makers' Association in the Saar and Moselle districts amounted to 19,415 tons of puddling iron, 54,327 tons of Thomas iron, and 14,530 tons of foundry pigs—total, 88,272 tons, against 93,419 tons in October, decrease 5½ per cent., and 93,483 tons in November last year, decrease also 5½ per cent. During the 11 months so far this year the total output in these districts has amounted to 1,012,512 tons, against 994,520 tons during the same period of 1894—an increase of 17,992 tons, or rather less than 2 per cent.

PLATINUM IN ALASKA.—The value of platinum ranges from 35s. to 45s. per ounce, according to state of the market; yet, until recent years, miners seem to have paid little attention to its discovery. For years it has been known that platinum exists in Alaska, where it is nearly always associated with free gold in placer deposits. The gold miners working in the Yukon basin for the last two years did not know the value of the little globular deposits of platinum which were so often present with their gold, hence they found them a continual source of grumbling. At the present day, the United States alone import about 3,000 pounds of platinum a year from Russia. If the platinum deposits in the Yukon Valley, in Alaska, approach anywhere near the expectations of the prospectors, there is every reason to believe they will prove quite as valuable as the gold mines in that extensive region.

GOLD PRODUCTION.—Lydenberg Mining Estates (New Clewer Mine): Results for November—From Mill: Crushed, 1,940 tons, yielding 855 oz. of gold; from cyanide works: treated 553 tons, yielding 392 oz. of gold; total yield, 1,247 oz. of gold; total value of month's output, £3,795. Crown Reef: Results for November: Number of days working 120-stamp mill, 28 days 12 hours; crushed by 120-stamp mill, 17,080 tons; yield in smelted gold from 120-stamp mill, 6,483 oz.; yield in smelted gold from cyanide works, 4,965 oz.; total, 11,448 oz. Simmer and Jack: Crushed 11,805 tons; obtained 5,478 oz. of gold from mill; 624 oz. by chlorination; and 1,757 oz. from tailings by cyanide during November. Le Champ d'Or: Cablegram received from the manager of the mine at Johannesburg: "During the month of November mill worked 22 days, crushed 5,600 tons, yielding 2,873 oz.; cyanide, 950 oz.; total, 3,823 oz."

Reports of Companies.

THE LAGUNAS NITRATE COMPANY, LIMITED.

In the course of his speech to the shareholders of this company at the first annual general meeting, held last week, the Chairman (Colonel North) had the following written statement read:—"I now come to a question of the gravest importance. You have, doubtless, all read the attacks which have been made upon nitrate companies generally, and upon myself, in the course of the past few months. If the matter concerned myself alone I should treat it with the contempt it deserves; but as some millions of money are at stake, and shareholders are being made to suffer by the action of certain people, I feel I have no longer any right to remain silent. Newspapers of repute like the *Economist* and the *Pall Mall Gazette* have even joined in these attacks; but I have traced the origin of them. They come from a man named Nicholson, who has gone out of his way to write letters to the *Pall Mall Gazette* referring to nitrate companies in general, and in particular to the Lagunas companies, in which you and I are so greatly interested; and, as I dare not trust myself to express all that I feel, I have written down a few facts, from which you can draw your own conclusions. Mr. Nicholson has made it his business to make these attacks, sometimes in his own name, sometimes through the medium of the newspapers who have been induced to lend him their assistance. The *Pall Mall Gazette* inserts his letters, and then itself writes articles which seem to reflect his views. For instance, they recently put forth statements to the effect that the property of the Lagunas Nitrate Company was in peril, as the title to its lands was impeached. This was an absolute falsehood. No question whatever has ever arisen with regard to the land of the Lagunas Nitrate Company. They then turned round and said, "Oh, we meant the Lagunas Syndicate Company;" and when they were further pressed upon this they were obliged to say that they did not mean the title to the 548 estacas which the Lagunas Syndicate owned, and of which it had sold 200 to the Lagunas Nitrate Company, but that they only referred to what they called the surplus estacas. They then referred in large type to "Lagunas Litigation," and on our pointing out that there was no litigation pending they published an extract from a report by Senor Montt which advised the Chilean Government to rectify the boundaries of the Lagunas Syndicate. They are now obliged to admit that subsequently to the date of this so-called opinion the very question was decided by the Chilean Court of Appeal in the case of *Lara v. the London Nitrate Company*, which decision was to the effect that where a company has been in possession more than ten years (and the Lagunas Syndicate can claim possession of the whole of their estacas for thirteen years) the title is indefeasible by prescription, even if originally it was not valid. In the case of the Lagunas Syndicate they have a perfectly valid title for the whole of their grounds, which is made doubly unimpeachable by a thirteen years' possession, giving a prescriptive right. You will naturally ask what object a man could have in making these attacks. Now, you all know that the nominal capital of the different companies with which I am associated amounts to some millions sterling. Some months since Mr. Nicholson placed himself in communication with several gentlemen (friends of mine) suggesting that I should make it worth his while to discontinue these attacks. I declined, and the attacks continue. Now, gentlemen, I make these statements with a full sense of the responsibility attaching to them. I do it in your interests and in behalf of the large number of shareholders who are interested in nitrate companies. I referred to this gentleman at some length at the meeting of the *Primavera Nitrate Company* in Liverpool on November 28. On November 29 the *Pall Mall Gazette*, referring to what I had said, published a statement to the effect that Mr. Nicholson immediately telegraphed announcing that he was taking legal action, and the *Pall Mall* added that he might be left to look after himself. You will, therefore, readily believe that I have been in daily expectation of receiving notice of these terrible legal proceedings, but so far nothing has come. On December 9, however, the *Pall Mall Gazette* published a letter from Mr. Nicholson, in the first paragraph of which he says: "Col. North apparently thinks that vulgar abuse will divert me from my purpose, and cause me to stay my hand in pointing out the weaknesses of nitrate finance; but I can afford to treat his abuse with contempt." Well, gentlemen, what I have said about this person I repeat. Every man should be the best custodian of his own honour, and if Mr. Nicholson says he can treat such a statement with contempt, I leave it to every other honest man to say what he thinks of him. But I wish to go a step further, and ask: What are we to think of the *Pall Mall Gazette*, which, in the face of its own comments of November 29, continues to publish letters over the signature of a man whom I have felt it my duty in the interests of all the shareholders interested in these companies to denounce?"

The Chairman: I must tell you that, in my opinion, this man has been the cause of our shares having very much depreciated, but I think

we have a very good prospect in the future. I think in the near future we shall have a complete combination, and then we shall go on making much larger profits. There is no doubt it would please these papers and a lot of the bears if we were not unanimous. We are doing all we can for you, and, as I pointed out, we are electing four new directors. There is Mr. Lowe, the chairman of the Santa Rita, then there is Mr. Quat Fáslem, who was connected with the Lantaro, and is an old nitrate maker, and Mr. Morris, a gentleman of great ability. My son, who sat on the board, gives place to one of these gentlemen. I have now great pleasure in proposing the adoption of the report and accounts. The report and accounts were adopted.

THE DETERMINATION OF NICKEL IN NICKEL-STEEL.

E. D. CAMPBELL AND W. H. ANDREWS.

SINCE publishing his former method for the determination of nickel in nickel-steel, the author has been endeavouring to perfect another method which should be an improvement over the first one. Such accurate results have been obtained in so short a time by this method that it is thought desirable to give the details of manipulation.

Place a one gram sample of nickel-steel in an Erlenmeyer flask of about one-half litre capacity. Add twenty-five c.c. of nitric acid (1.20) and boil until dissolved and nitric oxide is boiled out of the flask. Meanwhile, dissolve thirteen grams of sodium pyrophosphate in seventy-five c.c. of warm water. This solution must not be boiled as the pyrophosphate is thereby converted to the orthophosphate.

After complete solution, filter the sodium pyrophosphate and add it to the cooled solution of the steel. This will give a heavy, white precipitate of ferric pyrophosphate. Add, a little at a time, with constant agitation, a clear twenty per cent. solution of sodium carbonate until the precipitate of ferric pyrophosphate just dissolves and the solution attains a dull, olive-green colour.

An excess of sodium carbonate must be carefully avoided, as the subsequent precipitation of nickel will not be complete if this is not done. With an excess of the carbonate the solution turns red, so that colour may be used as a guide to the required amount. For a one gram sample, fifty to fifty-five c.c. of twenty per cent. sodium carbonate is usually sufficient.

After redissolving with sodium carbonate, filter through asbestos, receiving the solution in a one-half litre Erlenmeyer flask; wash the filter with water sufficient to rinse out the original flask and to insure complete transference of the solution. Now add to the solution two grams of potassium xanthate freshly dissolved in twenty to twenty-five c.c. of water. Stopper the flask and shake at frequent intervals for ten minutes. The nickel will be completely precipitated as xanthate, together with any copper the steel may contain, but perfectly free from manganese and almost free from iron. Filter as rapidly as possible through asbestos, using a pump, and wash the brick-red nickelous xanthate four or five times with freshly prepared one per cent. potassium xanthate.

The solution of potassium xanthate used for precipitating, as well as that used for washing, should be prepared by adding to the desired amount of salt sufficient water for solution, but should not be allowed to stand longer than fifteen or twenty minutes before using as it slowly decomposes. The dry salt is stable.

Dissolve the washed precipitate off the filter by allowing twenty c.c. of freshly diluted fuming nitric acid to fall little at a time on it. The dilute fuming nitric acid should be prepared just before using by pouring ten c.c. of water into ten c.c. of fuming nitric acid. Catch the solution of the xanthate precipitate in a small Erlenmeyer flask. Wash the filter two or three times with hot water, then pass through five c.c. of dilute sulphuric acid (2:3) and wash this out with more hot water. Boil the solution in the flask rapidly until the nitric acid is completely expelled and sulphuric anhydride fumes begin to rise. Cool, add twenty to twenty-five cc. of water, heat nearly to boiling, and, when all is in solution, pass in hydrogen sulphide for two or three minutes. Allow to stand until the cupric sulphide has settled. Filter and wash with hot water containing a little hydrogen sulphide.

Boil the filtrate, containing the nickel and a very small amount of iron, until hydrogen sulphide is expelled, add a few drops of hydrogen peroxide, or a few milligrams of sodium peroxide to oxidize the iron, and boil, then precipitate the iron with a very slight excess of ammonium hydroxide. Boil, filter, and wash once or twice with hot water. Dissolve the small precipitate of ferric hydroxide off the filter with five c.c. of dilute sulphuric acid (2:3) and reprecipitate with a slight excess of ammonium hydroxide. Boil and filter into the original filtrate. This solution will contain all the nickel free from iron, manganese, and copper. The nickel may be determined in either of the following ways:

1. *Electrolytically*.—Place the united filtrates from the ferric hydroxide in a platinum dish having a capacity of about 200 c.c., add

c. of a ten per cent. solution of disodium hydrogen phosphate, twenty-five c.c. of strong ammonium hydroxide. The solution have a bulk of about 175 c.c. Electrolyze for twelve hours with it of 0.14 amperes per 100 sq. cm. area of the dish, having the electrodes about one-half cm. apart.

precipitate of nickel obtained in this way is perfectly clear and hardly to be distinguished from the platinum on which it is set.

the precipitated nickel with warm water, then with alcohol. weigh as usual. For accurate work it is more satisfactory second platinum dish, washed and dried like the first, as a poise.

Volumetrically.—Place the united filtrates from the ferric de in a medium-sized Erlenmeyer flask and cool until cold. The solution should have just enough free ammonia to give a slight but odour; if this is not present at this stage, add a few drops of ammonium hydroxide. Add five c.c. silver nitrate indicator (made by adding five-tenths gram silver nitrate in 1,000 c.c. of water). Add of a two per cent. solution of potassium iodide, which give the an opalescence due to the presence of silver iodide in sus-

in standard potassium cyanide (one c.c. = 0.001 gram nickel) solution becomes clear and bright. The titration depends on the fact that so long as there is any nickel uncombined with potassium cyanide in the form of the double cyanide, the silver iodide remains undissolved, but as soon as the nickel has all been changed to potassium cyanide, forming potassium silver cyanide, and the solution becomes perfectly clear.

making a correction necessary for the titration of the indicator the total amount of potassium cyanide used, gives the amount of nickel.

Standard Solutions Required.—Standard nickel solution: This can be easily prepared from pure nickel wire. The commercially available nickel wire usually contains 98.5–99.5 per cent. nickel. If this is used for making the standard solution, take such a weight as represents one gram of pure nickel, dissolve in a No. 3 beaker twenty-five c.c. nitric acid (1.42), and evaporate just to dryness on a water-bath. Moisten with a few drops of nitric acid, add about five c.c. of water, and heat to solution. When the nickel is dissolved, dilute to fifty or sixty c.c., add six grams of sodium acetate in a little water, heat nearly to boiling until the ferric basic separates. Filter, and wash thoroughly with hot water. Add of sulphuric acid to the solution, transfer to a graduated litre bottle, and dilute to 1,000 c.c.

Standard Potassium Cyanide.—Dissolve four and five-tenths grams of potassium cyanide in water and dilute to 1,000 c.c. This must be used against the standard nickel solution.

from a burette twenty-five to thirty c.c. of the nickel solution in a medium-sized Erlenmeyer flask, dilute with water to about add ten c.c. of dilute sulphuric acid (2:3); then add ammonium cyanide carefully until a slight but distinct odour of ammonia is perceptible. Add five c.c. of silver nitrate indicator, five c.c. of two per cent. potassium iodide and titrate with potassium cyanide until the solution brightens. Correction for the indicator is found by proceeding as above, except that the standard nickel solution is omitted.

potassium cyanide is quite stable, weakening, however, on standing. The deterioration amounted from five-tenths to one-tenth c.c. in twenty-five c.c. during one week.

in order to test fairly the accuracy of the recovery, the varying amount of pure nickel wire were weighed and dissolved by my assistant, who turned them over to Mr. Andrews as strictly standard samples. Weighed amounts of iron wire were then added to the solution proceeded with as if it were an ordinary sample of

hours is sufficient time to get the solution ready for electrolysis.

Following table will show the accuracy of the results obtained, the amount of nickel present was strictly unknown to the operator analysis was completed:—

d.	Nickel taken.	Nickel recovered.	Gain and loss.		Method.
			Gram.	Gram.	
5	0.08892	0.08910	+0.00018		Electrolytically.
6	0.03430	0.03435	+0.00005		"
7	0.05298	0.05345	+0.00047		"
8	0.10824	0.10825	+0.00001		"
9	0.02690	0.02740	+0.00050		"
10	0.00100	0.02089	—0.00011		Volumetrically.
11	0.06578	0.06532	—0.00046		"
12	0.07582	0.07583	+0.00001		"
13	0.08017	0.08050	+0.00033		"
14	0.09389	0.09381	—0.00008		"

THE NATURAL SODA DEPOSITS OF THE UNITED STATES.

By DR. THOS. M. CHATARD.

ABOUT two miles north-east of Ragtown one may notice a slight elevation on the surface of the desert, but the ascent is so gentle that one can hardly appreciate it. Suddenly, and without preparation, one comes upon the brink of a precipitous depression in the desert, more than 300 acres in area, the rim being more than 150 feet above the surface of the lake, which covers the greater part of the bottom of the cavity. The shores of this lake are lined with the vats of the soda-makers, whose white houses make a pretty contrast with the green salt grass and the blue waters of the lake. Flocks of small birds are continually hovering over the lake, and the whole presents a scene of life and colour, the more beautiful because unexpected and in sudden contrast to the burning sand without, where beauty is represented by the horned toad and life by the tarantula.

An eighth of a mile away, and separated by a narrow ridge, is another depression similar to the first, and called the Little Lake. While less attractive, it is quite as interesting; perhaps even more so.

Both of these depressions are evidently the craters of extinct volcanoes. The walls are composed of loose, sandy materials intermixed with pieces of rock, often two or three feet in diameter, and which are evidently volcanic ashes with larger masses of scoria. The deepest place in the lake is 312 feet below the highest part of the rim, and, as the surface of the water lies many feet below the bed of the neighbouring Carson River, it is evident that these lakes, which have no apparent feeders and no outlets, are supplied by seepage from the river.

The water of the big lake is a strong solution of salts, mainly common salt, with a large proportion of sulphate and of the two carbonates. You will remember that I have already told you that natural soda is composed of sodium monocarbonate and bicarbonate, with varying proportions of other salts, mainly chlorides and sulphates. Now I wish to impress upon you that, in nature, these two carbonates are always found together, and, furthermore, that if one exposes the solution of pure monocarbonate to the action of the air, the solution absorbs carbonic acid and a portion of the monocarbonate is converted into bicarbonate. The presence of the carbonate in this water must be accounted for by the decomposition of the volcanic ash through the action of air and moisture, as already described, the soluble salts thus formed being leached out of the mass by the river seepage, conveyed to the crater, and then concentrated by evaporation. The change of the monocarbonate into bicarbonate is continually going on, but appears to pause whenever the relation between the two salts reaches a certain limit, and the phenomenon is most important, as it gives us the only means of extracting the valuable carbonates from the accompanying useless salts.

For many years past the extraction of sodium carbonate from the waters of the Big Lake has been an established industry.

The waters of these lakes contain, as their principal constituents, sodium salts (mainly chloride, sulphate, carbonate, and bicarbonate), together with some borax and some potassium salts. Of these salts only the carbonate and bicarbonate have any prospective value. These waters have all been carefully and repeatedly analysed, and the area and depth of Abert, Mono, and Owens Lakes fairly well determined. The amount of the two carbonates in each of these lakes can, therefore, be calculated, and the results are as follows:

Abert Lake has an area of 40 square miles and an average depth of 10 feet; Mono Lake, 85 square miles and depth of 60 feet; and Owens Lake, over 100 square miles, average depth 17 feet.

Taking these areas and depths, and knowing the amount of each salt in a given volume of the water, we obtain for the number of tons of carbonate and bicarbonate in these lakes the following surprising figures:

	Sod. Carb., Tons.	Sod. Bicarb., Tons.
Abert Lake..	3,428,352 (3½ millions).	1,560,000 (1½ millions).
Mono Lake..	75,072,000 (75 " "	17,936,000 (18 " "
Owens Lake.	39,875,200 (40 " "	8,431,000 (8½ " "

Total... 118,375,552 (118 millions). 27,927,000 (28 millions).

Vast as this amount may seem, we must not forget that we are considering but three localities, leaving out the Ragtown Lakes, Summer Lake, the Black Rock Desert, Long Valley, and many other places, which probably aggregate a far larger amount. It is, therefore, no exaggeration to say that within a belt of country fifty miles wide and extending from Abert Lake, in Southern Oregon, to Owens Lake, in South-Eastern California, the amount of sodium carbonate, in the form of dry deposits, or of strong solutions, is more than sufficient to make 250,000,000 tons of soda ash.

Now, no one who knows that country, will doubt these figures; but for all that, some hard-headed man of business in this audience is probably talking to himself thus:

"I have no doubt of it. I am also well aware that unlimited quantities of a very superior quality of ice exists at the North Pole, but I am quite sure that ice will not be any cheaper in Philadelphia next summer for that reason. I have also been told that all sea water contains gold, but have never heard of any one getting rich from sea water unless he was a pirate or a hotel keeper."

Our friend is quite right. However lavish Nature be, her gifts are wasted unless she so bestows them that they can be used by man. Most of these localities are at present inaccessible, and it may never be possible to make use of Mono Lake and of many of the smaller localities; but I feel that I am not exaggerating when I say that, at Owens Lake alone, there are space and facilities for works large enough to produce 250,000 tons of soda ash yearly, or the present annual consumption of the United States. Moreover, by a small addition to the present railroad facilities, this entire amount can be profitably made and distributed at present prices. Remembering also how much soda already exists in the lake, and that the latter is continually receiving additions through drainage, you will see that even this large production could only slowly reduce the supply.

It now remains to show you how this work can be done. The fundamental principles of a correct extraction process are these: The solubility of sodium bicarbonate is much less than that of either sulphate, chloride, or the ordinary carbonate. At the ordinary temperature of 60° F., 100 parts of water dissolve 36 parts of sodium chloride, 16 parts of sodium carbonate, 13 parts of sulphate, and less than 9 parts of bicarbonate. With rise of temperature the solubility of sodium carbonate and of sulphate increases greatly, so that, at the summer temperature of 90° F., 100 parts of water can dissolve 46 parts of carbonate, or 50 parts of sulphate, but only 11 parts of bicarbonate. The solubility of bicarbonate is also much diminished if chloride or sulphate is also present in the solution. If a solution containing equal parts of sodium chloride and bicarbonate is allowed to evaporate, it will be found that almost all of the bicarbonate will crystallize before the chloride begins to deposit, and the same is the case if sulphate is substituted for the chloride, though the separation is not so sharply defined.

Now, if sodium carbonate is also present in such a solution, the bicarbonate, in depositing, takes with it a certain definite proportion of carbonate, and forms with it a well-crystallized salt of definite composition. This double salt has long been known to mineralogists under the name of "urao," but its importance in the technology of natural soda has only lately been recognised. Upon the properties of this salt depends the entire process by which high-grade soda ash can be made from the impure natural soda. We will, however, call it "summersoda," the name given to it at the Big Lake at Ragtown, and at Owens Lake, where it is the product of the crystallising vats.

When the solution of natural soda, such as the water of any of these lakes, is allowed to evaporate at any temperature below 150° F., a crop of crystals will be obtained. The crystals are colourless needles or prisms, and, if the evaporation is not pushed too far, will be practically free from sulphate or chloride. The composition is quite constant, and the salt may be considered as made up of 47 parts of sodium carbonate, 37 parts of bicarbonate, and 16 parts of water of crystallisation. If a solution contains monocarbonate, sulphate and chloride, but no bicarbonate, it will be difficult to separate the carbonate from the other salts; but if bicarbonate is present, this will separate first, and, in depositing, every 37 parts will take with them 47 parts of carbonate. In this way we are able to extract from such a solution a very large proportion of its valuable constituents, and other salts remaining in the mother liquor.

When this "summer soda" is heated to a temperature not much above 300° F., it readily parts with its water and the excess of carbonic acid belonging to the bicarbonate, and the residue is a compact "soda ash" or sodium carbonate. It is therefore apparent that, to make a good soda ash from natural soda, is a very simple matter. Of course, to produce the largest possible amount from a given quantity of raw material, and to do this in an economical manner, involves a great many other considerations and a thorough technical training, but such details are foreign to this evening's purpose.

I may, however, say here that the carbonic acid which is given off in the process of converting this summer soda into soda ash must be utilized as closely as practicable in any rational manufacturing method, and this can be done by absorbing it in the raw solution, thus increasing the proportion of bicarbonate and the consequent yield of summer soda. If the carbonation of the raw solution be pushed far enough, almost all of the carbonate can be converted into bicarbonate, and thus be separated in one operation. This, indeed, will occasionally be found advisable in practice, but the greater part of the ash will always be made from summer soda obtained by spontaneous crystallization, for which the hot and arid climate of the region is especially favourable, and enables the soda maker to do his work with the minimum expenditure of fuel. In such a region, fuel will always be an expensive item, and manual labour will be scarce and, consequently, costly. The use of labour-saving devices and machinery naturally suggests itself,

but will be limited by the cost of the necessary motive power, although any extra expense for this will probably be covered by greater efficiency in work and greater uniformity of product. The forms of machinery and furnaces used in the other soda processes are not suitable for this industry, though the principles can be applied with substantial modifications in design. The furnace temperatures are low, and thus fuel is saved; but careful management is necessary, and the furnace must be continuous and nearly automatic. The utilisation of the furnace gases and the economical handling, packing, shipping, transporting and marketing of the products, present many interesting problems which may have to be solved by novel devices and arrangements. In general, the distance to the ultimate market will be great, and every saving will be necessary.

In conclusion, I can only repeat what I have said upon another occasion: "It would seem that the time must soon come when these vast natural resources will attract the serious attention of capital and business enterprise. The path is open. The general chemical lines are already well known, and the engineering problems, while numerous, are neither very complex nor very difficult. With the steady development of the transportation facilities of the far West, it may reasonably be expected that those arid regions will soon become the seat of a new, great, and prosperous industry."

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

- Treating Sulphide Ores containing Zinc, etc. T. Parker and J. Pullman. 23,543. December 9.
Improvements in the Manufacture of Caustic Soda. H. R. Angel. 23,556. December 9.
Treating Ores containing Zinc. E. A. Ashcroft. 23,556. December 9.
Improvements in the Manufacture of Alkaline Phosphates and Caustic Alkali. W. P. Thompson. 23,572. December 9.
Grinding Bones, Bark, Saltcake, etc. W. Daintith. 23,575. December 9.
Producing Metallic Cyanides, particularly Cyanides of Potassium and Sodium. C. Kellner. 23,580. December 9.
Improvements in the Manufacture of Alkaline Chlorates. C. Kellner. 23,591. December 9.
Improvements in the Apparatus for Treating Nickel Ores and other Nickeliferous Materials with Carbonmonoxide. L. Mond. 23,665. December 9.
Treating Nitrates for the Production of Nitric Acid and Recovering Bye-products. J. Main and W. Donald. 23,819. December 12.
Electrolytical Diaphragms formed of Carbonates of the Alkaline Earths. S. S. Bromhead. 23,852. December 12.
Scouring and Degreasing Wool. W. G. Heys. 23,882. December 12.
Improvements in the Apparatus for the Manufacture of Carbon-disulphide. F. W. Maxwell and G. Millard. 23,902. December 12.
Improvements in the Manufacture of White Lead. C. D. Ismay. 23,949. December 12.
Composition for Preventing the Accumulation of Moisture or Acids upon Walls, etc. F. Ludewig. 23,981. December 14.
Preparing Saponaceous Products from Petroleum. W. Weygaug. 23,997. December 14.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal and ALL RIGHTS of publication are RESERVED. This is the earliest series of abstracts of Chemical and allied patents accessible to the public.

Improvements in or Relating to the Removal of Scale from Boilers. A. J. Boulton, 232, High Holborn, London (communicated by W. H. Tebean and W. J. Baker, both of 107, West Cayuga-street, Oswego City, New York, U.S.A.) Eng. Pat. 23,929. Dec. 8, 1894.

The method adopted is a purely mechanical one. By means of an ingeniously-constructed contrivance a series of hammer-like blows are directed against the inside of the boiler tubes, regardless of whether the scale is inside or out. The resulting vibration jars off the scale. The apparatus is applicable to all forms of tubular boilers.

Practically it consists of two disc-shaped heads carrying a shaft, at one end of which a lever hammer (kept in contact with the side of the boiler tube by a spring) is actuated by a cam fixed on the shaft. At the open end of the tube a handle and gearing effect the rotation of the shaft. It is also possible to insure, coincidentally with the hammer-like blows, the progression and rotation of the hammer. The rapidity with which the blows are delivered is entirely under the control of the operator. For details, the three accompanying drawings should be consulted. Where the scale is on the outside of the tubes it is advisable to remove any soot from the inside prior to the introduction of the scale-remover, so as to keep the working parts free from dirt and in good order.

ments Relating to the Drying and Packing of White Lead and ke. E. J. Read, 1, Kent-road, St. Albans, Herts. Eng. Pat. 24,746. 20, 1894.

pparatus is designed to provide for the automatic drying and of white lead, with a view to economising time and mini- and labour in an occupation that renders the workers liable to oning. The drying is effected in an oblong iron pan, heated derneath by steam or water pipes placed in a brick chamber, ith ventilators for regulating the temperature. The pan is ith movable, water-tight ends, which are closed when the f wet lead is introduced. An overhead traveller moves back- and forwards along the top of the pan, carrying stirring arms, to reciprocating motion is conveyed by gearing on the traveller. ole is surmounted by a movable hood, which carries any vapours to a shaft. When the lead is dry the ends of the withdrawn and the discharger attached to the traveller thrown r. This is simply a sheet of metal the same width as the pan, gradually lowered at each passage of the traveller, thus slowly the dried lead out at the ends of the pan into casks or a mixing . The transit of the lead from the end of the pan to the casks d by a screw, revolving in a horizontal pipe which passes the o a vertical down-pipe fitted with a sliding door or trap. A ounding the vertical feed-pipe carries an adjustable conical ich fits over the head of the cask when filling. The apparatus in longitudinal and cross-sectional elevations.

ments in Apparatus for Decomposing Calcium Carbide. H. 13, Monradsej, Copenhagen, Denmark. Eng. Pat. 17,746. Sept. 23,

invention relates to an apparatus for the generation of pure e from calcium carbide. It is based on the same principle as well-known H_2S or CO_2 generator, being so constructed that uction of the gas is regulated according to the consumption. e apparatus comprises a bell immersed in a water container, a perforated charge holder suspended within it in such a posi- the decomposition of the charge proceeds gradually upwards ater reaches the calcium carbide. The contact of the water e carbide, and consequently the generation of the gas, is nt upon the pressure within the bell. There are two sectional e plan diagrams.

proved Disinfectant or Composition for Disinfecting, Sanitary, other Purposes. H. Hiscott, 56 and 57, Aldermanbury, London, E.C. Pat. 19,418. Oct. 16, 1895.

patentee claims to increase the disinfecting powers of the "tar of commerce by the addition of alkaline fluorides, silico, or orides. One form of preparation consists in taking a suitable y of "tar acids" or "heavy tar oils," and emulsifying the r adding them to about half, to nearly their own weight, of melted a kettle provided with a mechanical paddle. A sufficiency of soda or potash (or a mixture of both) is then added, the exact ions depending on the composition of the "tar acids." From of cottonseed or coconut oil may be added to assist the solu- Lastly, not less than 10% of the fluorides named above is rated. Thus prepared, the mixture is fluid or semi-fluid. To into solid blocks or slabs, a sufficiency of kieselguhr, plaster of awdust, or other suitable material is added. For laundry pur- e aforesaid mixture is combined with a suitable proportion of ap, when it can be advantageously used in the place of ordinary

ements in Obtaining Pure Concentrated Nitric Acid from Dilute mpure Solutions. Dr. F. Valentiner, of the Chem. Fab. Valentiner and warz, Leipzig-Plagwitz, Germany. Eng. Pat. 19,192. Oct. 12, 1895.

erman patent 63,207, a process is described for the preparation e acid in vessels deprived of air. It has been found to be pos- y means of this new process to convert all dilute acid produced y process now in use into saleable, high-strength acid. For e, a mixture of 800 kilos. of sulphuric acid and 1,200 kilos. of nitric acid with a specific gravity of 1.40 is subjected to distilla- a partial vacuum, so that the temperature need not rise above . Consequently all the water is retained by the sulphuric acid with other impurities, while pure monohydrated nitric acid of 94 distils over, and is collected in the receivers.

AS A DISINFECTANT.—The hygienic value of soap is hardly d by the general public. Recent experiments have shown that a n of soap will kill typhoid or cholera microbes. A one per cent. n will do so in twelve hours, while a seven or ten per cent. n will do it in a few minutes. This is about the simplest and eliable means of disinfecting that we have at our disposal.

Trade Notes.

THE LATEST CHEMICAL COMBINE.—We understand that the long talked of combination between the United Alkali Company, Messrs. Brunner, Mond and Co., and Messrs. Bowman, Thompson and Co., is at last an accomplished fact, the agreement between the two first-named firms having been signed on the 26th, and that between the United Alkali Company and Messrs. Bowman, Thompson and Co. on the 27th. We understand that the United Alkali Company will sell the entire production of Messrs. Bowman, Thompson and Co., whose output, both as regards soda ash and salt cake, will be limited to the average of their recent working, except in the event of an increased demand all round, in which case their output will also be increased *pro rata*. The agreement, which is said to be for five years, leaves Messrs. Bowman, Thompson and Co. a free hand in the purchase of materials, and it takes no cognisance of salt, hydrochloric acid, and chlorate of soda, of which this firm are also producers.

FIRE AT A TALLOW WORKS.—The extensive tallow factory in North King-street, Dublin, belonging to Messrs. Crean and Foy, of Liverpool and Dublin, was destroyed by fire last week. The damage, which amounts to several thousands of pounds, is covered by insurance.

SOCIETY OF CHEMICAL INDUSTRY: *Manchester Section*.—The third meeting of the session will be held on Friday, January 3, at the Victoria Hotel. The business of the meeting will commence at 7 p.m. Papers will be read by Dr. Gerland on "Some New Methods of Testing Gas," and by Mr. W. Irwin on "The Influence of Temperature on the Illuminating Constituents of Coal Gas."

PICRIC ACID AS A CURE FOR BURNS.—Quite recently a French chemist happened to be experimenting with picric acid, and by a fortunate mischance his hands became stained with the acid. Presently he had occasion to use some sealing wax, and a drop of hot wax fell upon the back of his hand. He shivered with anticipant pain, but was amazed to find that no burn resulted. He at once began to strike out a new line of research, and presently proved to demonstration that picric acid prepared according to a certain formula is an absolute specific for burns and scalds. The discovery is reported to have been tried in this country in a serious burning case with perfectly satisfactory results.

LAMP ACCIDENTS AND LEGISLATION.—The Home Secretary has written as follows to a correspondent who called his attention to the fact that during the six months ending last September there were in London 211 lamp accidents, 23 of which proved fatal, and asked whether the sale of cheap lamps could not be prevented by legislation:—"Home Office, Whitehall, Dec. 2. Sir,—In reply to your letter of the 26th ult. on the subject of the frequency of serious accidents from lamp explosions, I am desired by the Secretary of State to say that he hopes to be able when Parliament reassembles to secure the reappointment of the Select Committee which has sat in previous years with a view to legislation on the matter in question. I am yours very truly, W. P. Byrne."

SALTERS' COMPANY'S RESEARCH FELLOWSHIP.—The Executive Committee of the City and Guilds of London Institute are inviting applications for the appointment to the Salters' Company's Research Fellowship for the ensuing year. The Fellowship was founded by the Salters' Company for the encouragement of higher research in chemistry in its relation to manufactures, and particulars of the scheme under which the award is made may be had on application to the Honorary Secretary, at the Head Office of the Institute, Gresham College, Basinghall Street, E. C. The results of the researches by Dr. Martin O. Forster, the Salters' Research Fellow for the current year, at the Institute's Central Technical College, were recently communicated to the Chemical Society.

BETTER LATE THAN NEVER.—Referring to the fraudulent sale of margarine as butter, the *Grocer* expresses some doubt as to the efficacy of the fines now imposed under the Margarine Act in suppressing the fraud. Attention is drawn to a recent statement of the Superintendent of the Manchester Health Department to the effect that it is a common practice amongst certain provision merchants to supply retailers with margarine, representing it as butter, getting for it prices almost equal to those of Danish butter, and to pay the fines imposed upon the offending retailers. This, says the *Grocer*, they can well afford to do, and thus the penalties are not at present likely to be effectual. What then? it is asked, are honest tradesmen to do in face of this illicit competition. The answer given is that they should support the Vigilance Committee of the retailers' Association in the initiation and conduct of prosecutions. The suggestion appears to be that, although the fines may not be enough to put a stop to this illegal practice if prosecutions are few, they may prove effectual if instituted with sufficient frequency to make the fraudulent sale of margarine irksome and embarrassing to the offenders. The *Grocer* states that "enormous" profits are realised by unscrupulous merchants in this kind of business, notwithstanding that it is forbidden by the law. We do not know if our contemporary has been reading up back numbers of the *Journal* and so become "inspired," but if not it has been rather tardy in discovering the facts we are well-nigh weary of reiterating, so dense do the members of the bench appear to be.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are rather quieter at 2s. 4d. for 90's and 2s. for 50'90's. Crude 60% carbolic acid is a trifle firmer at 1s. 9d., with 40% crystals steady at 6½d. Other products are more or less affected by the holiday tone of the market, prices remaining at 10d. for crude naphtha, and 1s. 6d. for solvent. Creosote 1½d. Anthracene 11d. to 1s. for 30% A. Pitch steady at 37s. 6d., f.o.b., East Coast.

Sulphate of ammonia has been somewhat neglected, business during the week having been of a holiday character. Beckton value is still £9, London outside makes £8. 12s. 6d., Liverpool £8. 12s. 6d., Hull £8. 11s. 3d., and Leith £8. 10s. to £8. 11s. 3d. Nitrate easy.

MISCELLANEOUS CHEMICAL MARKET.

The market continues steady in all the main products of the alkali trade. The combination of the three large soda manufacturers has tended to strengthen the market. The price for 58% alkali remains both for spot and forward delivery at £3. 7s. 6d. per ton, bags, f.o.r. makers' works. Soda crystals are without movement. Caustic soda continues in good demand both for home and export, and prices are steady at f.o.b. Liverpool: 77%, £9. 7s. 6d.; 74%, £8. 7s. 6d.; 70%, £7. 10s.; 60%, £6. 10s. net, 10-ton lots. Bleaching powder is still in active request, and price without change, at £7. f.o.r. makers' works, and £7. 5s. to £7. 7s. 6d. f.o.b. Liverpool. Chlorate of potash, 4½d. per lb. Soda 6½d. per lb. Sulphur, £3. 12s. 6d. f.o.r. Saltcake firm, at 25s. to 27s. 6d. f.o.r. in bulk. Sulphate of copper steady, at £16. 5s. f.o.b. Borax and boracic acid are moving off readily at improved prices. Prussiate of potash is selling freely within the limits of 7¼d. to 8d. Cyanide of potassium in good demand, at 1s. 3d. to 1s. 4d. Acetates of lime are, meantime, without change. In acetate of lead there is little doing. Acetate of soda in tolerably good demand, but without any improvement in value. Potash, caustic, and carbonate selling freely as usual at this time of the year, and prices are well maintained. White powdered arsenic still very scarce, price nominally £15. 15s. to £16. Aniline oil and salt are firm, and with a tendency to further advance. Carbolic acid crystals are much inquired for, and price tending upwards. Nitrate of soda still selling at 7s. 6d. per cwt. for spot, and 7s. 9d. forward. The holiday season is to some extent interfering with the demand for chemicals in the manufacturing districts.

LIVERPOOL MINERAL MARKET.

In spite of the Christmas holidays and the consequent slight reduction in the demand, the market keeps fairly firm. Manganese: There have been a few arrivals, but these have gone direct to consumers; stocks are still small, and therefore prices are firm, and, with the approach of winter, likely to advance. Ground manganese keeps in good demand at £6., £8., £10., and £12. 10s. per ton, according to quality. Manganiferous iron ore is unchanged at 16s. to 17s. 6d. per ton, c.i.f. Chrome ore: Arrivals have been only small; prices are still strong, and likely to continue so; prices ruling at present are 70s. to 100s. and 105s. per ton, according to quality. Bauxite is in increased demand, and there is a very good prospect for the future; prices are firm at 20s. per ton for first, 16s. for second, and 12s. for third quality, f.o.b. French chalk: Arrivals have been steady this week, but they have gone direct into consumption, and stocks are only very small; "Angel White" brand is firm and in special demand at 70s. to 75s., 80s. to 90s., and 100s. to 110s. per ton, according to grade. Magnesite is still slow and prices easy, but there is a better prospect for the future. Wolfram and scheelite are in better demand, and prices are slowly advancing. Arsenic is steady and commands good prices. Fuller's earth: "Emerald" and other brands are steady at 50s. for lump, 55s. for ground, and 70s. per ton for impalpable powder. Rottensone: Prime quality is scarce and bringing full prices. Umbers and ochres continue steady: French J.C. ochre is being done at 60s. to 65s. per ton, and prime umber at 40s. per ton. Oxides of iron sell readily at £6. to £10. per ton for good staining, and prime qualities at £17. to £20. per ton. Carbonate of barytes is rather quiet, but there is a probability of an advance in price with the approach of winter and prospects of shorter supplies; prime sulphate is scarce and commanding full prices. Fluor and feldspars are steady, without change. Emery stone is in better demand, prime Turkish being done at 75s. to 95s. per ton, according to quality, and Naxos still firm at last prices. Mica is in fair demand at £15. to £18. and £25. per ton for powdered qualities. Bog ore is in fair demand at 22s. 6d. per ton. Plumbago: The demand continues good at £6. to £10. per ton for foundries and lubricating purposes, prime Ceylon being done at £15. to £20. per ton. Pumice stone is steady at £10. to £12. per ton; powdered, £7. per ton. Iron ore is quiet at 10s. per ton; Spanish and other qualities quiet, but firm.

REPORT ON MANURE MATERIAL.

The market has throughout the week been of a holiday character actual business done has been on a small scale. The quotation mineral phosphates are unchanged. Buyers for the most part are fully bought for the coming season, and raisers do not seem inclined to commit themselves much further ahead at the present low prices. There is nothing fresh to report in River Plate bones, of handy size being worth £3. 17s. 6d. delivered to U.K. ports. There is nothing doing in crushed East India bones. For shipment, Bone meal offers at £3. 17s. 6d., ex quay, Liverpool, Ha Glasgow, and a shade less would probably be business for practically arrived. Nitrate of soda is steady at 7s. 7½d. to 7s. 9d. cwt., according to quality, on spot. The position of the market tends rather to firmness, the prospects of combination of raisers being again revived. There is nothing special to report miscellaneous material.

LIVERPOOL OIL AND COLOUR MARKET.

TUESDAY.
OILS.—There is only a small demand for palm oil, but the quantity offering is steadying prices. There are no sales to report. Olive keeps steady, with a limited business. Linseed quiet, at 20s. to 21s. 6d. per cwt. for Liverpool makes in export casks. Cotton sells but slowly, still so far there is no change in Liverpool rate which is quoted at 17s. 3d. to 17s. 9d. per cwt. Castor oil, the very quiet, is steady, good seconds Calcutta standing at 2½d., and pressure French 2½d. per lb. Tallow is lifeless. Resin moderate demand, prices being on the same basis as last week. S of turpentine strong, with considerable activity and excitement in market, owing to the sharp rise in America. Sellers are firm at per cwt. Petroleum firm at 7½d. to 8½d. for American, and 7d. gallon for Russian refined.

COLOURS are steady, without alteration in price. Ochres: Oxfordshire, common, £10., medium, £12., best, Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, 90s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40 45s.; French, J.C., 60s. to 65s.; M.C., 65s. to 67s. 6d. Um Turkish quiet; Devonshire, 50s. to 55s. White lead, £16. Red unchanged. Venetian red, £6. to £10. Cobalt: Prepared 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2s. 6d. Oxide of iron: Common, £7.; medium, £10.; finest, Zinc oxide, £22. 10s. to £25.

THE METAL MARKETS.

LONDON, TUESDAY.—Pig iron, dull: Scotch was closed at 45s. 5½d.; Middlesbrough, 36s. 6d. cash, and 46s. 4½d. Copper, steady: Chili bars, G. O. B.'s and G. M. closed at £42. 10s. to £42. 15s. cash, and £42. 17s. 6d. to 2s. 6d. three months. Tin easier: Straits closed at £61. 5s. £61. 15s. cash, and £61. 15s. to £62. 5s. three months. Austro £61. 17s. 6d. English ingots, £64. 10s. to £65. Lead, Spanish, £11. 5s. to £11. 6s. 3d.; English, £11. 10s. Sil spelter, ordinary, £14. 12s. 6d. Nickel, 1s. 1½d. Antimony £30. 5s. Quicksilver, quiet: first hands, £7. 7s. 6d.; second hands, £7. 4s. Copper shares, steady: Cape, 2 to 2¼; Copiapó, 1 2¼; Libiola, 2¼ to 2½; Mason and Barry, 2¼ to 2½; Rio T 14½ to 14¾; Tharsis, 4¾ to 4¾.

GLASGOW, MONDAY.—Market flat, with large business. So done at 45s. 9d., 45s. 5½d., and 45s. 6d. cash, also at 45s. 11 and 45s. 8d. one month; closing with buyers at 45s. 5½d. cash, ask 45s. 6d. Cleveland done at 36s. 10d. and 36s. 7½d. cash, at 36s. 10d. and 36s. 9d. one month; closing with buyers at 36s. cash, sellers ask 36s. 6½d. Cumberland hematite done at 46s. 4 cash, also at 46s. 8½d. one month; closing with buyers 46s. 4½d. cash, sellers ask 46s. 5½d. Middlesbrough hematite at 44s. 6d. and 44s. 6½d. cash; closing with buyers at 44s. 6 cash.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

Again is sulphate of ammonia weaker than at foregoing report, indeed, the feeling in the article is more despondent than before. Especially is this so as judged by continental views, every success post to correspondents on this side showing these views as well lowering. By the middle of last week some makers were at £8. 10s. prompt Leith, and selling has been done repeatedly at till now it begins to be difficult to get, and there has commenced.

tion lower still. Possibly buying has by this time been done at 9d. The mineral oil and solid paraffin sections of the market are very active, out of contracts. There is also some excitement on account of the American affair; hostilities would mean serious effects on the home oil and paraffin market. The general market is felt to be running down to the usual annual lull, ten days or more business transactions will be at a minimum. Better of the works will close for the best part of a fortnight. The market for the most part maintained at the old figures.

Prices current are:—Soda crystals, £2. 2s. 6d., home, nett, Tyne; do., 48/56°, £3. 15s. to £4. 15s. nett, Tyne; white alkali, £4. 10s. to £5. nett, Tyne; alum in lump, £5. 10s. nett, Tyne; caustic soda, white, 76° £9. 5s., 70/72° £7. 10s., 60/62° £6. 7s. 6d., all nett, Liverpool; bleaching, £6. 10s. to £7. nett, Tyne; saltcake, 27s. 6d.; borax, English, £20., and boracic acid, £30. nett, Glasgow; bicarbonate of soda, £6. 10s., and 1-cwt. casks £6. 15s. nett, Liverpool; state of potash, 4½d. nett, for Scotch and English deliveries (for 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¼d. nett, for and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); state of potash, 4¼d. less 5%, Liverpool; nitrate of soda, 7s. 6d. to 8d.; sulphate of ammonia, £8. 8s. 9d. to £8. 10s. prompt, f.o.b. ammoniac, first and second white, £39. and £37. nett, any port; copper, £16. 2s. 6d. to £16. 7s. 6d., less 5%, Liverpool; paraffin, 2½d., and soft, 1½d. to 2½d. per lb.; paraffin wax, 120° refined, 2½d. to 2¾d.; paraffin spirit (naphtha), 7½d. to 8d. per gallon; paraffin oil (burning) No. 1, 6½d., and crystal, 6¾d., at works, all buyers (English sales about ½d. lower); ditto (lubricating) No. 1, 15s. to £5., 880° £5. 5s. to £5. 10s., and 890/895° £6. 10s. Week's imports of sugar at Greenock were bags cane unrefined and 6,980 bags beet unrefined.

WOLL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

Business in oils, considering the period of the year, is being well maintained. The imports of the year against the same year ago have been: Linseed, 712,934 qrs., against 651,540 qrs.; rapeseed, 163,087 qrs., against 150,935 qrs.; cottonseed, 188,654 qrs., against 179,040 qrs.; olive oil, 12,415 casks, against 21,507 casks; rapeseed, 7,632 casks, against 21,587 casks; oil cakes, 17,164 tons, against 18,056 tons; tallow, 15,132 cwt., against 58,232 cwt.; bones, 20,393 barrels, against 20,393 barrels. Linseed oil, after declining to 18s. 3d. naked spot, firmer, and 18s. 6d. is again paid—this also is the nearest price for January-April or May-August; boiled and refined from £2. per ton extra. Export for the week has been 840 cwt. cotton oil steady at 15s. naked spot. January-April is quoted at 16s. 1½d.; casks £1., and ordinary barrels £1. 10s. The export of refined oil for the week has been 840 cwt. Spirits of turpentine dearer, and cannot be bought below 10s. per cwt. Castor oil 2½d. per lb. for first pressure. Boiled oil, £13. per ton. Olive oil unchanged. Cod oil from £17. per ton. Liquid soap, £16. per ton. Mineral oils continue to be quiet.

ES.—A steadier tone, but fresh orders are not plentiful. Linseed steady: 95% pure, £5. 17s. 6d. to £6. per ton; Russians, 16d. to £5. 15s. Oil cakes, £5. to £5. 2s. 6d. Cotton cakes: first, £3. 10s.; seconds, £3. 7s. 6d. per ton. Rape cakes 16d.

TS.—The situation in the trade here for these articles is very quiet and makers will no doubt be pleased to take advantage of the long holidays to close their works until they can commence to do hand the orders booked for New Year's deliveries. Prices unchanged.

TYNE CHEMICAL REPORT

TUESDAY.

Chemicals are very quiet, and there is little doing as is usual at this time of the year. Soda crystals, £2. 2s. 6d. per ton, gross weight, 76/77° caustic, £9. 5s. per ton. Sulphur, £3. 17s. 6d. per ton. Prices generally unaltered. Bleaching powder, soft, £7. 5s. per ton, nett; hard, £7. 10s. per ton, nett; caustic soda, 76/77°, £9. 10s. per ton, nett; do., 70°, £7. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; do., 48%, £3. 15s. per ton, nett; do., 52%, £3. 17s. 6d. per ton, nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. 10s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 7 cwt. casks, £6. 10s. per ton, nett; do., 1 cwt. kegs, £7. 5s. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 80° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d.

per ton, nett; soda crystals, casks, £2. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 2s. 6d. per ton, nett weight; chlorate of potash, 5d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

SALT.—South Durham salt unchanged at 9/6 per ton, f.o.b., Tees.

COALS.—There is rather more activity in steam coals, while gas and household qualities continue in full demand. To-day's quotations are:—Best Northumbrian steam, 8s to 8s. 3d. per ton; second qualities, 7s. to 7s. 3d. per ton; small steam, 3s. 9d. to 4s. per ton; bunker coals steady, unscreened, 6s. 3d. to 7s.; gas coals, 6s. 6d. to 7s. 3d. per ton; household coals, 10s. to 11s. per ton; coke very steady at 14s. 6d. to 15s. per ton.

New Companies.

Elberfeld Farbenfabriken Co., Ltd.—CAPITAL £5,000, in £10. shares. This company has been formed to manufacture, sell, and deal in chemicals, drugs, colours, dye-stuff, pharmaceutical preparations, etc. The regulations of Table A mainly apply. Registered by Grundy, Kershaw & Co., 4, New Court, Lincoln's Inn.

Alfred Goodall & Co., Ltd.—CAPITAL £10,000., in £5. shares. This company has been formed to acquire the business of dyers, chemical manufacturers, dyewood grinders, &c., carried on at Farrar Mill, Salterhebble, Yorks. The subscribers to the memorandum of association are:—Mrs. H. Goodall, Farrar Mill, Salterhebble, Halifax; B. L. Fletcher, 4, Park-road, Halifax, dyer; W. W. H. Warneford, The Elms, Crewe, engineer; Mrs. M. E. Warneford, The Elms, Crewe; O. D. Fletcher, West Hill Park, Halifax, dyer; E. Strickland, 33, Harrison-road, Halifax, surgeon; T. England, Lightcliffe, near Halifax, solicitor.

Patent Dye Extractor Co., Ltd.—CAPITAL £10,000, in £1. shares. This company has been formed to adopt a certain agreement, and to acquire, develop, and turn to account Patent No. 20,677, of 1892, for improvements in the extraction of tanning and dyeing materials. The subscribers to the memorandum of association are:—A. Hess, 1, Northill-road, Leeds, manufacturer; J. Hess, West Grove, Headingley, Leeds, manufacturer; B. Hess, 4, Lyddon-terrace, Leeds, merchant; J. Goldschmidt, Frankfurt-on-Maine; E. Vernon, Bracebridge, Lincoln; S. Hess, West Grove, Headingley, Leeds; C. S. Boggs, 15, St. John's-terrace, Leeds, merchant.

British Electrozone Corporation, Ltd.—CAPITAL, £250,000., in £5. shares. This company has been formed to acquire the rights of the Woolf electrolysis, bleaching, and disinfecting process in all countries save the United States of America and the Hawaiian Islands. The subscribers to the memorandum of association are:—A. C. C. Codd, Trafalgar Buildings, Charing Cross, merchant; J. D. Jehu, Holly Lodge, Keston, Kent, gentleman; G. Hazelgrove, Clifton-road, Warrington, accountant; A. J. Lusty, Goldhurst Mansions, Finchley, merchant; A. Riding, Wesleyan Training College, Westminster, clerk; A. E. Griesbach, 17, Gloster-road, Kew, accountant; E. H. Selby, 8, Buckingham-street, W.C., architect.

Kali Syndicate, Ltd.—CAPITAL £6,000., in £1. shares. This company has been formed to enter into an agreement with the Anglo-German Salt Syndicate, Ltd., and to acquire and turn to account certain mining rights and property in rock salt, salts of sodium of potassium, and brine springs, situated at Steinforde, near Celle, in the Empire of Germany. The subscribers to the memorandum of association are:—C. H. Williams, 4, Oswyth-road, Camberwell, clerk; G. F. Griffin, 7, Manderville-place, W., C.E.; E. Johnstone, 44, Eaton-place, W., stock jobber; B. A. Taylor, 34, Chalcot-crescent, Regent's Park, gentleman; J. Jacobs, 16, St. Helen's-place, E.C., solicitor; C. G. Embleton, 26, Carlton Grove, Peckham, clerk; E. E. Strong, 1, Choumont Grove, Peckham, writer.

Matthew's Newcastle-on-Tyne District White Lead Co., Ltd.—CAPITAL, £35,000., in £1. shares, of which 12,000 are preference. This company has been formed to carry on the business of chemical manufacturers, lead smelters, desilverisers, drysalts, oil and colour men, paint and varnish, &c., makers. The subscribers to the memorandum of association are:—E. W. Streat, 95, Woodlands-road, Ilford, gentleman; J. Fettes, 32, St. Mary's-square, Kennington, gentleman; E. S. Roche, 204, Lancaster-road, Notting Hill, gentleman; R. Bedford, Marston, South Ealing, W., gentleman; S. Tonkin, 46, Pembroke-square, Kensington, gentleman; F. W. Lambert, 108, Ilfley-road, Hammersmith, gentleman; T. E. Fuller, 272, Essex-road, N., gentleman.

IMPORTS OF CHEMICAL PRODUCTS

AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.		
Week ending December 14th.		
Acetic Acid—		
Holland, 138 pks.	A. & M. Zimmermann	
" 200	Beresford & Co.	
" 137	G. Rahn & Co.	
" 1	J. Owen	
Acetone—		
Holland, 2 pks.	A. & M. Zimmermann	
Alkali—		
Holland, 80 c.	Spies, Brs. & Co.	
Alum—		
Holland, 4 pks.	Hore & Scrivener	
Germany, 13	Ohlenschlager Brs.	
Holland, 250	"	
Aluminium—		
Germany, £160	C. Tennant, Sons & Co.	
Antimony Ore—		
Portugal, 50 t.	J. Bamber	
U. States, 75	H. R. Merton & Co.	
Asbestos—		
Holland, £24	G. Rahn & Co.	
Canada, 1,500	Deering & Robottom	
N. Russia, 120	Surrey Com. Dk. Co.	
Barium Chloride—		
Germany, 55 pks.	Petri Brs.	
Holland, 22 cks.	"	
Barytes—		
Germany, 44 cks.	W. Harrison & Co.	
" 20	Steinhoff, Sons & Co.	
Holland, 22	Petri Brs.	
Belgium, 100	O'Hara & Hoar	
Bleaching Powder—		
Norway, 22 pks.	G. Boor & Co.	
Boric Acid—		
Germany, 8 pks.	F. Boehm	
Camphor—		
Japan, 100 pks.	R. Warner & Co.	
" 153	S. Figgis & Co.	
" 70	Brown & Elmslie	
Caoutchouc—		
France, 4 c.	H. Johnson & Sons	
Aden, 5	Wallace Brs.	
Germany, 134	"	
" 6	Anderson, Weber & Smith	
Penang, 350	E. Roustead & Co.	
Zanzibar, 19	Clarke & Smith	
Rangoon, 2	L. & I. D. Jt. Co.	
Ibo, 42	Forbes, Forbes & Co.	
Germany, 27	"	
Beira, 13	Prop. Bull Wf.	
Zanzibar, 6	Wallace Brs.	
" 2	L. & I. D. Jt. Co.	
Lamos, 12	Prop. Bull Wf.	
Holland, 10	Prop. Hay's Wf.	
France, 15	L. & I. D. Jt. Co.	
Ibo, 9	"	
Mozambique, 31	"	
Castor Oil—		
Belgium, 20 brls.	Jessop & Co.	
Ceylon, 66 cks.	Prod. Brokers Co., Ltd.	
France, 75	Jessop & Co.	
" 29	Mordaunt Brs.	
" 10	12 cs. Beresford & Co.	
" 17	J. Greig	
" 60 pks. 45	F. Boehm	
Belgium, 40 dms.	Leach & Co.	
" 110 brls.	Thames S. T. & L. Co., Ltd.	
Caustic Potash—		
Holland, 20 pks.	J. M. Steel & Co.	
Chemicals (otherwise under.)—		
Belgium, 6 cs.	T. Palmer	
Germany, 2 pks.	L. & I. D. Jt. Co.	
" 64 pkgs.	T. H. Lee	
" 21 cs.	A. & M. Zimmermann	
" £6	G. Rahn & Co.	
Sweden, 15 pks.	M. D. Co.	
U. States, 41 cks.	W. J. Groves	
Germany, 5	Redwood & Sons	
Cream of Tartar—		
France, 5 pks.	B. & F. Wf. Co.	
" 10	W. C. Bacon & Co.	
" 4 cks.	C. Atkins & Nisbet	
Germany, £7	Phillipps & Graves	
Holland, 10	Beresford & Co.	
" 40	Kirkpatrick & Co.	
Dextrine—		
Holland, 10 pks.	H. Lorenz	
Dyestuffs—		
Argols		
Italy, 500 pks.	Thames S. T. & L. Co.	
France, 2	B. & F. Wf. Co.	
Italy, 348	B. Jacob & Sons	
Cochineal		
Canaries, 19 pks.	W. M. Smith & Sons	
U. States, 10	J. W. Borland	
Cutch		
France, 50 pks.	Huttenbach & Co.	
U. States, 1,000	Ralli Brs.	
Rangoon, 350	H. T. Norton	
Singapore, 6	Adamson, Gillfillan & Co.	
Rangoon, 650	Leach & Co.	
" 200	W. H. Cole & Co.	
" 75	H. T. Norton	
E. Indies, 125	Ralli Brs.	
Divi Divi		
E. Indies, 6 pks.	L. & I. D. Jt. Co.	
Extracts		
France, 50 pks.	S. M. Frankenstein & Co.	
Holland, 6	Phillipps & Graves	
Germany, 11	T. H. Lee	
France, 20	"	
U. States, 100	Skillbeck Brs.	
France, 25	Beresford & Co.	
Germany, 1	L. & I. D. Jt. Co.	
Holland, 4	T. H. Lee	
France, 20	C. Faust & Co.	
U. States, 50	W. Burton & Sons	
Gambier		
Singapore, 463 pks.	J. Greig	
" 931	Brinkmann & Co.	
" 442	H. Lambert	
" 168	R. & J. Henderson	
" 443	Adamson, Gillfillan & Co.	
" 446	Beresford & Co.	
" 259	Ross & Deering	
" 235	Union Ltge. Co.	
" 144	L. & N. W. Rly.	
Indigo		
E. Indies, 7 chts.	A. B. Curtis & Co.	
Spain, 10 cs.	Andrew Brs. & Co.	
E. Indies, 7	Forbes, Forbes & Co.	
" 39	Walker, Munie & Co.	
" 12	J. Owen & Co.	
" 93	L. & I. D. Jt. Co.	
" 35	P. Macfadyen & Co.	
" 8	Croysdale & Co.	
" 5	Wallace Brs.	
" 10	H. Johnson & Sons	
Saffron		
Spain, 1 pk.	Beck & Pollitzer	
" 1	R. Quincey & Son	
" 2	C. Brunlem & Co.	
Tanner's Bark		
Durban, 92 t.	A. & W. Nesbitt	
Melbourne, 66	"	
Belgium, 25	Sawer, Sons & Co.	
Natal, 31	Union L. Co.	
" 9	A. & W. Nesbitt	
" 3	Flack, Chandler & Co.	
" 50	Boutcher, Mortimore, & Co.	
Yalonia		
Greece, 12 t.	J. Graves	
" 14	Deering & Robottom	
A. Turkey, 202	Hicks, Nash & Co.	
" 150	F. Claydon & Co.	
" 52	Devitt & Hett	
Farina—		
France, 4 pks.	Girard Frs. & Co.	
Holland, 50	H. Lorenz	
" 300	Seaward Brs.	
B. W. I., 905	Anderson, Weber & Smith	
Glucose—		
U. States, 400 pks. 400 c.	E. Dixon	
" 400	400 c. L. & I. D. Jt.	
" 5	27	Lidstone & Co.
" 100	600	Kearley & Tonge
Holland, 52	85	J. Barber & Co.
U. States, 3,999	3,999	Pearce, Pelly & Co.
" 1,600	2,063	L. Sutro & Co.
" 2,939	6,239	R. G. Hall & Co.
Germany, 200	200	Fellows, Morton & Co.
U. States, 250	250	"
" 115	725	L. Norman & Co., Ltd.
Glue—		
" £1,249		
Lead Acetate—		
Germany, 5 pks.	F. Boehm	
Holland, 28	"	
Litharge—		
Germany, 12 cks.	H. Wallace & Co.	
Holland, 58	Spies Brs. & Co.	
Magnesite—		
Greece, 7,857 pks.	Elkman Paper Co.	
Manganese Ore—		
Germany, 5 t.	Phillipps & Graves	
" 15	C. S. Lovell	
Manure—		
Sydney, 2 t.	Union Mrtge. & Agency Co.	
E. Indies, 250	Fox, Roy, & Co.	
" 333	A. Hunter & Co.	
Germany, 121	F. W. Berk & Co., Ltd.	
Methyl Alcohol—		
Belgium, 21 dms.	A. Chapman	
Mica—		
U. States, £20	C. F. Gerhardt	
" 110	C. Ward	
" 200	Hodgkinson & Co.	
Melbourne, 30 t. Low, Sons, & Bedford		
Ochre—		
Holland, 22 cks. 9 cs.	Phillipps & Graves	
France, 45	50 brls. W. Harrison & Co.	
Phosphoric Acid—		
Germany, 4 pks.	City Coml. Wf.	
Pitch—		
U. States, 33 tcs.	Gray, Laurie, & Co.	
" 33 cks.	Dussik Brs. & Co.	
Plumbago—		
Germany, 40 cs.	E. & T. Pink	
Ceylon, 232	J. Thredder, Son, & Co.	
Potash—		
Canada, 260 c.	Charles & Fox	
Potassium Carbonate—		
Germany, 55 c.	J. Barber & Co.	
France, 100	G. Mallard	
Holland, 478	W. G. Blagden	
France, 85	J. A. Reid	
Potassium Chloride—		
Belgium, 40 pks.	Arnati & Harrison	
Potassium Oxalate—		
Holland, 4 pks.	Beresford & Co.	
Potassium Sulphate—		
France, 350 bgs.	G. Mallard	
Pumice Stone—		
Italy, 8 t.	O'Hara & Hoar	
" 6	Acton & Borman	
Pyrites—		
China, 6 t.	L. & I. D. Jt. Co.	
France, 1	H. Johnson & Sons	
Portugal, 1,030	Mason & Barry, Ltd.	
Rosin—		
Sweden, 3 brls.	M. D. Co.	
France, 25 cks.	Lucas & Spencer's Wf.	
Saltpetre—		
E. Indies, 432 bgs.	A. Hunter & Co.	
" 314	Lucas & Spencer's Wf.	
Germany, 70 cks.	P. Hecker & Co.	
Holland, 20	Lucas & Spencer's Wf.	
Soda Ash—		
Holland, 1,760 c.	R. Waters	
Sodium Acetate—		
France, 21 pks.	H. Lorenz	
Sodium Binocalate—		
Holland, 35 pks.	F. W. Berk & Co.	
Starch—		
Germany, 700 pks.	Horne & Co.	
Austria, 10	City Coml. Wf. Co.	
Holland, 60	Phillipps & Graves	
Belgium, 40	Sawer, Sons & Co.	
France, 350	G. Mallard	
Belgium, 380	E. & T. Pink	
Germany, 200	C. Tennant, Sons, & Co.	
Belgium, 80	Leach & Co.	
France, 330	E. & T. Pink	
Holland, 920	Little & Johnston	
Stearine—		
France, 160 bgs.	G. Boor & Co.	
" 100	H. Hill & Sons	
Belgium, 100	"	
France, 50	Beck & Pollitzer	
Holland, 15 cks.	J. Owen	
Talc—		
Italy, £26	Soundy & Sons	
Austria, £200	G. G. Blackwell, Sons, & Co.	
Tartaric Acid—		
Germany, 10 pks.	F. C. Devon & Co.	
Italy, 8	H. & F. Wf. Co.	
Ultramarine—		
Holland, 17 pks.	G. Rahn & Co.	
" 5 cs.	Herna, Peron, & Co.	
France, 3	Arnati & Harrison	
Holland, 6	Haeflner, Hilpert, & Co.	
" 4 cks.	Spies Brs. & Co.	
Germany, 10 pks.	Steinhoff, Sons, & Co.	
Varnish—		
U. States, 7 pks.	Allan Brs. & Co.	
" 30	Beck & Pollitzer	
Verdigris—		
France, 12 cks.	B. & F. Wf. Co.	
White Lead—		
Holland, 20 cks.	Burrell & Co.	
Belgium, 40	W. & W. Hampton	
" 8 cs.	C. J. Capes & Co.	
Germany, 75 cks.	M. Ashby, Ltd.	
" 50	Taylor Bn.	
Aus. Terr., 25 cs.	M. D. Co.	
Holland, 56 cks.	D. Storer & Son	
" 10	Randall Brs.	
Belgium, 18	J. L. Lyon & Co.	
Holland, 24	Perkins & Homer	
" 25	Spies Brs. & Co.	
Belgium, 17	Burrell & Co.	
France, 30	Sawer, Sons & Co.	
" 19	J. Watt & Son	
Germany, 20	W. & A. Hampton	
" 26	W. A. Rose & Co.	
Wood Pulp—		
Sweden, 2,381 pks.	Tough & Henderson	
Norway, 100	Page, Son, & East	
Holland, 22	T. H. Lee	
" 603	G. Rahn & Co.	
" 1,038	E. J. & W. Goldsmith	
Sweden, 248	J. Spicer & Son	
Norway, 1,142	W. G. Taylor & Co.	
Germany, 100	H. E. Everett	
Zinc Oxide—		
Germany, 500 cks.	Soundy & Sons	
" 100	Beresford & Co.	
" 200 pks.	Prprs. Dwygats	
" 10	"	
Holland, 200	M. Ashby, Ltd.	
Zinc Sulphate—		
Germany, 31 pks.	City Coml. Wf.	

VERPOOL.

ending December 12th.

en—	3 cs.	
Colours—	4 cks. 5 cs.	T. Edwards & Co.
os—	nd, M., 1,500 bgs.	Bell's Asbestos Co.
g—	arg, 10 cks.	
am, 66		
elphia, 1,500 brls.		
sh—	es, 180 bgs.	H. Brown
es, 450		W. B. Dickinson
arg, 4		
deal—	2 bgs.	
es, 55		Williamson Milligan
o Acid—	137 cks.	
Oil—	62 cks. 60 brls.	
ies, 1 dm.		F. Leyland & Co., Ltd.
se—	100 bls.	Becker & Co.
als (otherwise undes.)—	3 cs.	
form—	1 cs.	
arg, 14 brls.		
dam, 10 cks.		
Sulphate—	10 cks.	
ies, 383 brls.		
eed Oil—	383 brls.	
of Tartar—	2 cks.	
ffs—	25 cks.	
atto	33 cks.	
ux, 2		
ois	12 bgs.	Swanston & Co.
hneal	400 bxs.	
lmas, 961 bgs.		
ch	24 cks. 50 bxs.	Emile M. Schweich
ore, 276		6 brls. W. Bingham
Divl	497 logs	
arg, 2,928 bls. 795 bgs.		
acts	2 cks.	
ork, 5 cs.		
ork, 1,285 bgs.		R. J. Francis & Co.
ork, 125		
onia	78 bgs.	A. M. Galliafis
400		C. G. Papayanni & Jeremias
h Chalk—	163	
ne—	4 cs.	
ie—	2 cs.	
York, 627 brls.		
n, 198		
su, 100 bgs.		
urg, 120 bgs. 46 cks.		
alles, 4		
azaire, 20		
si, 20		
4 cs. 16		W. M. Newman & Co.
9		

New York, 5 brls.		
Rotterdam, 5 brls.		
Infusorial Earth—	2	
Hamburg, 7 bgs.		
Lead Acetate—	1 ck.	
Hamburg, 39 t.		
Linseed Oil—		
Riga, 1,000 t.		Darwen & Mostyn Iron Co.
Manganese Ore—		
Vizagapatam, 2,760 bgs.		A. Gibbs, Sons & Co.
Manure—		
Sydney, N.S.W., 5 brls.		
Mica—	3 brls.	
New York, 3,720 brls. 350 dms.		
Naphtha—		
Philadelphia, 27 brls.		
Ochre—		
Marseilles, 3 cs.		Frazer & Co.
Paint—	15	
New York, 1,032 brls.		Thompson & Bedford
Paraffin Scale—		
New York, 1,000 t.		
Phosphate Rock—	25 cs.	
Bona, 10 bxs.		Elder, Dempster & Co.
Plumbago—	10 brls.	
Genoa, 102 cks.		
Potash—	12 cs.	
Boston, 25 dms.		Bancroft & Co.
Potash Salts—	5	
Hamburg, 102 bgs.		
Pyrites—	1,614 t.	Matheson & Co.
Huelva, 4 cks.		
Saltpetre—		
Hamburg, 25 bxs.		
Soap—	331 cs.	
New York, 335 brls.		Weaver & Sterry
Marseilles, 50		
Newport News, 198 bgs.		G. G. Blackwell, Sons & Co.
Leghorn, 500 bgs.		T. M. Duche & Sons
Soapstone—	500	
Bordeaux, 210 bxs.		Brown, Geveke & Co.
Starch—	90 cs.	
New York, 114		
Sulphur—	100 t. 25 brls. 50 bgs.	
Catania, 60 cs.		
Sulphur Ore—	1,364 t.	Matheson & Co.
Huelva, 200 bls.		G. G. Blackwell, Sons & Co.
Talc—	719 cks.	Lever Bros., Ltd.
Trieste, 300 hf. pps.		B. Ayres, San Nicolas, J. Nelson & Sons, Ltd.
Tallow—	200 brls.	
Sydney, N.S.W., 12 cks.		
Bordeaux, 5		
Naples, 4 cks.		
Tartaric Acid—		
Bordeaux, 1,642 brls.		
Treacle—	2 cs.	Pacific S. Nav. Co.
N. Orleans, 1		
Bordeaux, 3 cks.		
Genoa, 2,596 bgs.		
Verdigris—		
Bordeaux, 82 cks. 24 cs.		
Waste Salt—		
Hamburg, 62 bls.		
White Lead—	308 rolls	
Rotterdam, 60 cks.		
Wood Pulp—		
Rotterdam, 60 cks.		
Zinc White—		
Rotterdam, 60 cks.		

MANCHESTER.

Week ending December 14th.

Acetic Acid—	40 blns.	
Antwerp, 6 cks.		
Alum—		
Rotterdam, 50 bgs.		
Alum Cake—	30 cks.	
Rotterdam, 100 bgs.		
Barium Chloride—		
Rotterdam, 25 cs.		
Barytes—		
Antwerp, 25 cs.		
Castor Oil—		
Genoa, 25 cs.		
Chemicals (otherwise undescribed)		
Rotterdam, 37 cks. 45 cs. 53 brls.		
Colours—	7 bds.	
Rotterdam, 7		
Cottonseed Oil—	130 tcs.	
Rotterdam, 106 cks.		
Dyestuffs—		
Alizarine		
Rotterdam, 30 cks.		
Extracts	25	
Rotterdam, 555 bls. 65 bgs.		
Ghent, 400 bgs.		Browne, Geveke & Co.
Sumac	110 T. M. Duche & Sons	
Palermo, 900		
Stettin, 15		
Farina—		
Stettin, 4 cs.		
Copenhagen, 4 cs.		
Gelatine—		
Paris, 4 cs.		
Glue—		
Fiume, 4 cks.		
Rotterdam, 5 40 bgs. 2 cs.		
Stettin, 14		
Magnesium—		
Fiume, 4,235 bgs.		
Mineral White—		
Genoa, 1,700 bgs.		
Fiume, 400 pkgs.		
Pumice Stone—		
Leghorn, 9 cs.		
Sodium Nitrate—		
Rotterdam, 22 cks.		
Starch—		
Fiume, 100 bgs.		
Rotterdam, 30 cs.		
Ghent, 40 J. T. Fletcher & Co.		
Stearine—		
Rotterdam, 7 bls.		
Tartaric Acid—		
Rotterdam, 2 cks.		
Wood Pulp—		
Gefle, 7,321 bls.		Henderson, Craig, & Co.
Skutskar, 1,748		
Zinc White—		
Rotterdam, 10 cks.		

HULL.

Week ending December 14th.

Acid—	13 cks.	Wilson, Sons, & Co., Ltd.
Barletta, 12		
Hamburg, 2 cks. J. Good & Sons		
Ammonium Chloride—		
Helsingfors, 91 cks.		W. & C. L. Ringrose
Barytes—	22	Hutchinson & Son
Rotterdam, 35		100 bgs. Bailey & Leatham
Antwerp, 15		
Benzol—		
Amsterdam, 25 cks.		Hutchinson & Son
Betanaphthol—		
Rotterdam, 2 bls.		W. & C. L. Ringrose
Bone Meal—		
Bombay, 2,060 bgs.		
Campnor—		
Hamburg, 1 ck.		Lofthouse & Saltmer
Chemicals (otherwise undescribed)		
Stettin, 8 cks.		Wilson, Sons, & Co., Ltd.
Dunkirk, 76 dms. 26		
Antwerp, 140 pks.		
Hamburg, 2 cs. 77 cks.		
China Clay—		
Rotterdam, 236 bgs.		Hutchinson & Son
Cod Oil—		
Drontheim, 12 brls.		Wilson, Sons, & Co., Ltd.
Hamburg, 66		35 cks. "
Colours—		
Rotterdam, 15 cks. 14 brls. 1 bx.		Hutchinson & Son
Amsterdam, 2		W. & C. L. Ringrose
Antwerp, 25 pks.		Wilson, Sons, & Co., Ltd.
Dunkirk, 12 cks.		
Hamburg, 33		
Odessa, 8		
Rotterdam, 1 ck. 4 pks. 13 bxs. 65 brls.		W. & C. L. Ringrose
Cryolite—		
Copenhagen, 2 cks.		Wilson, Sons, & Co., Ltd.
Dextrine—		
Stettin, 100 bgs.		Wilson, Sons, & Co., Ltd.
Dyestuffs—		
Alizarine		
Rotterdam, 3 brls.		Hutchinson & Son
"	95	27 pks. W. & C. L. Ringrose
Cutch		
Bombay, 200 cs.		Wilson, Sons, & Co., Ltd.
Extracts		
Fiume, 33 brls.		Wilson, Sons, & Co., Ltd.
Madder		
Rotterdam, 8 cks.		Hutchinson & Son
Myrabolams		
Bombay, 3 194 bgs.		
Shumac		
Trieste, 171 bls.		Wilson, Sons, & Co., Ltd.
Palermo, 710 bgs.		
Valonia		
Trieste, 89 bgs.		Wilson, Sons, & Co., Ltd.
Farina—		
Amsterdam, 600 bgs.		Wilson, Sons, & Co., Ltd.
Ghent, 256 cs.		"
Antwerp, 50 bgs.		Bailey & Leatham
Stettin, 580		Wilson, Sons, & Co., Ltd.
Harlingen, 225		
Glucose—		
Amsterdam, 100 bgs.		Hutchinson & Son
Glue—		
Hamburg, 50 bgs.		Wilson, Sons, & Co., Ltd.
Stettin, 19 cks.		
Dunkirk, 160		
Antwerp, 5		
Kaolin—		
Amsterdam, 20 cks.		Hutchinson & Son
Lead Acetate—		
Hamburg, 1 ck.		Bailey & Leatham
Naphthaline—		
Stettin, 1 cs.		Wilson, Sons, & Co., Ltd.
Naphthol—		
Rotterdam, 10 bxs.		W. & C. L. Ringrose
Oxalic Acid—		
Rotterdam, 6 cks.		Hutchinson & Son
Phosphate—		
Ghent, 408 bgs.		Wilson, Sons, & Co., Ltd.
Antwerp, 615		
Harlingen, 13		
Pitch—		
Amsterdam, 26 cks.		W. & C. L. Ringrose
Hamburg, 30 brls.		H. F. Pudsey
"	63	

Amsterdam,	14 cks.	Hutchinson & Son
Potash —		
Rotterdam,	20 dms.	W. & C. L. Ringrose
Pumice Stone —		
Messina,	8 pks.	Wilson, Sons, & Co., Ltd.
Soap —		
Trieste,	1 ca.	Wilson, Sons, & Co., Ltd.
Bari,	21	"
Molfetta	20 boxes.	"
Starch —		
Amsterdam,	40 cs.	W. & C. L. Ringrose
Antwerp,	112	Bailey & Leatham
Bremen,	404	Veltmann & Co.
Stearine —		
Rotterdam,	44 bls.	Wilson, Sons, & Co., Ltd.
Antwerp,	34 bgs.	"
Sulphur —		
Catania,	329 pks.	Wilson, Sons, & Co., Ltd.
"	51 t. 600 bgs.	"
Tallow —		
Dunkirk,	34 cks.	Wilson, Sons, & Co., Ltd.
Tartaric Acid —		
Rotterdam,	10 cks.	Hutchinson & Son
Ultramarine —		
Rotterdam,	7 cks. 9 cs.	Hutchinson & Son
White Lead —		
Rotterdam,	57 cks.	W. & C. L. Ringrose
Antwerp,	45	Bailey & Leatham
Rotterdam,	22	Hutchinson & Son
Wood Pulp —		
Hamburg,	2 bds.	W. Shipstone & Co.
Helsingfors,	143 bls.	Furley & Co.
"	5	"
Zinc White —		
Amsterdam,	60 cks.	Hutchinson & Son

GLASGOW.

Week ending December 19th.

Acetate of Lime —		
New York,	229 bgs.	Wm. S. Gray
"	697	"
Albumen —		
Hamburg,	50 bgs.	"
Arachide Oil —		
Rotterdam,	4 cks.	J. Rankine & Son

Barytes —		
Rotterdam,	44 pks.	"
Bone Meal —		
Hamburg,	250 bgs.	"
Chemicals (otherwise undescribed)		
Hamburg,	1 cs.	"
Colours —		
Hamburg,	9 cks.	"
Rotterdam,	3	2 brls. 3 pks.
7 bas.	J. Rankine & Son	
Rotterdam,	23 pks.	"
Cottonseed Oil —		
New York,	29 brls.	"
Dried Blood —		
Hamburg,	100 bgs.	"
Dyestuffs —		
Alizarine		
Rotterdam,	3 pks. 29 brls.	J. Rankine & Son
"	59	"
Extracts		
Philadelphia,	23 brls.	"
New York,	50 bks.	"
Logwood		
Jamaica,	494 t. 3 c.	Mucklow & Co.
Farina —		
Hamburg,	1,100 bgs.	"
Glucose —		
New York,	200 brls.	"
Glue —		
Rouen,	77 cks. 16 bls.	"
Hamburg,	100 bgs.	"
Manure —		
Rotterdam,	32 cks.	J. Rankine & Son
Minium —		
Rotterdam,	7 cks.	J. Rankine & Son
Paint —		
Philadelphia,	1 brl.	"
St. John's, N. H. I.,	1 cs.	"
Phosphorus —		
New York,	5 cs.	Mitchell & Co.
Potassium Oxalate —		
Rotterdam,	16 cks.	J. Rankine & Son
Pumice Stone —		
Bordeaux,	5 cks. 1 bg.	"
Saltpetre —		
Hamburg,	32 cks.	"
Starch —		
Hamburg,	20 bgs.	J. Rankine & Son
Rotterdam,	10 cs.	"
Stearine —		
Rotterdam,	17 cks.	J. Rankine & Son
Sulphur Ore —		
Huelva,	1,824 t.	Rio Tinto Co.
Tartar —		
Bordeaux,	27 cks.	"
Oporto,	7	"

Treacle —		
Philadelphia,	1,000 brls.	Waddell & Bryson
"	500	"
Yarnish —		
New York,	5 brls.	"
Waste Salt —		
Hamburg,	50 bgs.	"
White Lead —		
Rotterdam,	68 cks.	J. Rankine & Son
Wood Pulp —		
Rotterdam,	113 bls.	J. Rankine & Son
Christiania,	954	"
Wood Spirit —		
Hamburg,	5 dms.	"
Zinc Sulphate —		
Hambourg,	21 cks.	"
Zinc White —		
Rotterdam,	50 cks.	J. Rankine & Son
"	100	"

TYNE.

Week ending December 14th.

Antimony Ore —		
Hamburg,	20 bgs.	Tyne S. S. Co.
Barium Chloride —		
Hamburg,	187 bgs.	Tyne S. S. Co.
Barytes —		
Rotterdam,	23 cks.	Tyne S. S. Co.
Glucose —		
New York,	25 brls.	Furness, Withy, & Co.
Glue —		
Hamburg,	1,080 bgs.	Tyne S. S. Co.
Pyrites —		
Huelva,	2,094 t.	Scott Bros.
Saltpetre —		
Hamburg,	3 cks.	Tyne S. S. Co.
Tartaric Acid —		
Rotterdam,	4 cks.	Tyne S. S. Co.
Yarnish —		
Hamburg,	7 brls.	Tyne S. S. Co.
Wood Pulp —		
Christiania,	100 bis.	"
Gothenburg,	275	"
Zinc Sulphate —		
Hamburg,	9 cks.	Tyne S. S. Co.

GOOLE.

Week ending December 11th.

Albumen —		
Hamburg,	2 cks.	"
Alkali —		
Calais,	14 cks.	"

Alum —		
Hamburg,	30 bgs.	"
Antimony —		
Boulogne,	3 cks.	"
Caoutchouc —		
Boulogne,	5 cks. 3 cs.	"
Chemicals (otherwise undescribed)		
Hamburg,	5 cs.	"
Colours —		
Rotterdam,	1 ck.	"
Hamburg,	27	12 cs.
Ghent,	8	1
Dyestuffs —		
Alizarine		
Rotterdam,	66 brls.	"
Indigo		
Rotterdam,	13 cts.	"
Dyestuffs (otherwise undescribed)		
Rotterdam,	295 cks.	80 cs.
Boulogne,	21	3
Farina —		
Hamburg,	950 bgs.	"
Delfsdyk,	3,798	"
Glucose —		
Calais,	100 bgs.	"
Potash —		
Rotterdam,	234 cks.	"
Hamburg,	14	"
Calais,	21 dms.	"
Saltpetre —		
Rotterdam,	105 t.	"
Antwerp,	85 bgs.	"
Sulphur Ore —		
Huelva,	1,331 t.	"
Wood Pulp —		
Hamburg,	106 bls.	"

GRIMSBY.

Week ending December 1st.

Caoutchouc —		
Hamburg,	8 pks.	3 cs.
Rotterdam,	1	1
Chemicals (otherwise undescribed)		
Hamburg,	2 cks.	3 cs.
Colours —		
Antwerp,	8 cks.	12 cs.
Rotterdam,	104 bgs.	"
Hamburg,	65	4
Dyes —		
Hamburg,	4 cks.	11 pk.
Antwerp,	88	47 cs. 17
Dyestuffs (otherwise undescribed)		
Dieppe,	34 cks.	"
Farina —		
Hamburg,	100 bgs.	"
Plumbago —		
Hamburg,	1 ck.	"

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending December 18th.

Acids —		
E. London,	1 c.	£12
New York,	1 t. 14	30
Natal,	46 cs.	28
Delagoa Bay,	5 drs.	18
Alum —		
Brisbane,	40 kgs.	£12
Ammonia —		
Sydney,	1 t. 2 c.	£36
Ammonium Carbonate —		
Brisbane,	5 cs.	£11
New York,	113 pks.	375
Antwerp,	20 kgs.	40
Sydney,	55 cs.	102
Melbourne,	12	15
Ammonium Chloride —		
Chinde,	8 t.	£80
Bourgas,	1	10 c.
Natal,	12	34
Constantinople,	2	10
Ammonium Nitrate —		
Bilbao,	34 cks.	£157

Ammonium Sulphate —		
Hamburg,	50 t.	£450
Bremen,	50	450
Amsterdam,	170	1,530
Ghent,	50	470
Dunkirk,	100	880
Newport News,	100	1,040
Mauritius,	60	700
Anhydrous Ammonia —		
Sydney,	75 cyldrs.	£410
Corral,	8	34
Arsenic —		
Sydney,	3 t.	£49
Borax —		
Algoa Bay,	20 kgs.	£22
Melbourne,	2 t.	88
Caustic Soda —		
Melbourne,	9 c.	£63
Sydney,	8 t. 5	5
Algoa Bay,	8 t. 15	234
Townsville,	1	3
Christchurch,	13	42
Chemicals (otherwise undescribed)		
Brisbane,	20 kgs. 2 brls.	£15
Rockhampton,	8 cs.	42
Montreal,	3	25
Demerara,	43 cks.	139

Copenhagen,	1 t. 2 c.	48
Dunkirk,	4	12
Algoa Bay,	9 cks. 2	6
"	3 pks.	10 drs.
Cape Town,	2 cs. 2	1
Jamaica,	2 pks.	13
Adelaide,	2 cs. 7 cks.	45
Sydney,	10	10 kgs. 1
Fremantle,	1 t. 17 c.	160
Citric Acid —		
Hamburg,	4 cks.	£122
Antwerp,	4	62
Cape Town,	2	16
Higo,	1 t.	126
B. Ayres,	2 t.	15
Christchurch,	2	14
Coal Products —		
Reval,		£635
New York,	50 cks.	560
Bombay,	200 cks.	513
Aniline Oil		
Genoa,	5 drs.	£180
Ghent,	20 cks.	310
New York,	10	400
Aniline Salts		
New York,	63 cks.	£500

Anthracene		
Rotterdam,	120 cks.	"
Benzol		
Antwerp,	27 brls.	"
Rotterdam,	25	88 pks. 20 cs.
Carbolic Acid		
Sydney,	6 cs.	"
Otago,	5	"
Marseilles,	6 cks.	"
Hamburg,	112	"
Cresote		
New York,	1 000 brls.	"
Cresote Oil		
Alicante,	7,692 brls.	"
New York,	500	"
Cresote Salts		
Harlingen,	2,326 bgs.	"
Naphthaline		
Treport,	55 cks.	50 bgs.
New York,	175	"
Pitch		
Shanghai,	30 brls.	"
Bombay,	51	"
Terneuzen,	450 t.	"
Antwerp,	908	"
Dunkirk,	125	"
Naples,	2,000	"

750 brls.	520
News, 300	113
dria, 105	43
50	16
487 cks.	292
6 cks.	£55
500 brls.	£270
130 drs.	18
30 cks.	£84
98	317
Sulphate—	
6 t.	£95
10	175
2	40
10 5 c.	170
Antinople, 13 t. 8 c.	£32
of Tartar—	
2 c.	£12
1 t.	92
5	480
7	244
10	50
10 kgs.	77
actants—	
40 drs.	£29
30 pkgs.	45
30	22
4 cs.	29
15	22
10	10
7	43
5	25
8 pks.	15
10 cs.	112
3 t. 15 c.	£31
20	20
21	367
re—	
20 t.	£250
200	£60
560 bgs	334
Acid—	
45 chys	£74
10 c.	£36
10	17
5 t. 9 c.	£225
1 t. 16 c.	£48
ium Chlorate—	
5 cs.	£159
2	93
ium Cyanide—	
60 cs.	£630
4 c.	21
ium Iodide—	
1 cs.	£34
ium Prussiate—	
10 cks.	£195
ake—	
27 t. 13 c.	£58
etre—	
1 t.	£23
24	24
45	27
2	27
18	22
p Dip—	
2 t. 16 c.	£688
35	175
2	70
11	20
50 drs.	38
21	790
14 c.	£9
4 t. 3	10
10	11
um Arseniate—	
1 t.	£12
um Bicarbonate—	
2 t.	£15
um Hyposulphate—	
5 t.	£36
15	15
um Sulphate—	
240 t.	£240
ntium Nitrate—	
15 brls.	£71
hur—	
2 t.	£22

Tartaric Acid—

Sydney,	15 c.	£89
Hamburg,	10	63
Brisbane, 10 kgs.	5	83
Adelaide,	1 t. 15	30 cs. 399
Cape Town,	6	37
Wellington,	4	30
Christchurch,	2	13

LIVERPOOL.

Week ending December 18th.

Albumen—

Boston,	4 t. 15 c.	£85
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Alum—

Portland, M.,	4 t. 15 c.	1 q. £29
Sydney,	3	15
St. John's, Nfld.,	8	18
Madras,	1	7
Calcutta,	31	13
Mogador,	4	1
B. Ayres,	3	12
Malaga,	1	1
Sydney,	1	5
Sta Catherine,	1	10
Talcahuano,	4	10
Constantinople,	1	5
Palermo,	1	10

Alumina Sulphate—

Valencia,	25 t. 9 c.	£235
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Aluminous Cake—

Calcutta,	36 t. 14 c.	£145
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Alumino-ferric—

Calcutta,	30 t. 10 c.	1 q. £76
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Ammonia (Liquid)—

Rio de Janeiro,	2 c.	1 q. £2
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Ammonium Carbonate—

Bordeaux,	2 t.	£65
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Ammonium Chloride—

Genoa,	1 t.	£35
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Ammonium Sulphate—

Valencia,	55 t. 7 c.	1 q. £497
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Antimony—

Bombay,	2 cks.	
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Asbestos—

Para,	1 cs.	
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Barytes—

Corfu,	25 cks.	
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Bleaching Powder—

Baltimore,	34 cks.	
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Chemicals (otherwise undeciphered)

Hamburg,	6 t. 19 c.	£229
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China Clay—

Boston,	120 t.	
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Coal Products—

Antiline Colours		
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Chloride of Lime—

Callao,	1 t. 2 c.	2 q. £34
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Castor Oil—

C. C. Castle,	10 cs.	
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Caoutchouc—

Rio de Janeiro,	2 cs.	
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Carbolic Acid—

Hong Kong,	5 c.	1 q. £9
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Carbonic Acid Gas—

Tocopilla,	1 t.	2 q. £30
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Castor Oil—

C. C. Castle,	10 cs.	
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Caustic Potash—

Melbourne,	1 t. 1 c.	£32
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Caustic Soda—

Alexandria,	17 dms.	
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China Clay—

Boston,	120 t.	
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Coal Products—

Antiline Colours		
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Chloride of Lime—

Callao,	1 t. 2 c.	2 q. £34
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Castor Oil—

C. C. Castle,	10 cs.	
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Caoutchouc—

Rio de Janeiro,	2 cs.	
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Carbolic Acid—

Hong Kong,	5 c.	1 q. £9
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Carbonic Acid Gas—

Tocopilla,	1 t.	2 q. £30
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Castor Oil—

C. C. Castle,	10 cs.	
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Caustic Potash—

Melbourne,	1 t. 1 c.	£32
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Caustic Soda—

Alexandria,	17 dms.	
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Borax Crystals—

Valencia,	6 c.	£6
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Calcined Magnesia—

New York,	5 c.	1 q. £25
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Calcium—

Sydney,	5 t. 5 c.	£12
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Caoutchouc—

Rio de Janeiro,	2 cs.	
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Carbolic Acid—

Hong Kong,	5 c.	1 q. £9
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Carbonic Acid Gas—

Tocopilla,	1 t.	2 q. £30
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Castor Oil—

C. C. Castle,	10 cs.	
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Caustic Potash—

Melbourne,	1 t. 1 c.	£32
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Caustic Soda—

Alexandria,	17 dms.	
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China Clay—

Boston,	120 t.	
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Coal Products—

Antiline Colours		
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Chloride of Lime—

Callao,	1 t. 2 c.	2 q. £34
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Castor Oil—

C. C. Castle,	10 cs.	
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Caoutchouc—

Rio de Janeiro,	2 cs.	
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Carbolic Acid—

Hong Kong,	5 c.	1 q. £9
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Carbonic Acid Gas—

Tocopilla,	1 t.	2 q. £30
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Castor Oil—

C. C. Castle,	10 cs.	
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Caustic Potash—

Melbourne,	1 t. 1 c.	£32
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Caustic Soda—

Alexandria,	17 dms.	
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China Clay—

Boston,	120 t.	
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Coal Products—

Antiline Colours		
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Chloride of Lime—

Callao,	1 t. 2 c.	2 q. £34
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Castor Oil—

C. C. Castle,	10 cs.	
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Caoutchouc—

Rio de Janeiro,	2 cs.	
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Carbolic Acid—

Hong Kong,	5 c.	1 q. £9
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Carbonic Acid Gas—

Tocopilla,	1 t.	2 q. £30
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Castor Oil—

C. C. Castle,	10 cs.	
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Caustic Potash—

Melbourne,	1 t. 1 c.	£32
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Caustic Soda—

Alexandria,	17 dms.	
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China Clay—

Boston,	120 t.	
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Coal Products—

Antiline Colours		
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Chloride of Lime—

Callao,	1 t. 2 c.	2 q. £34
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Castor Oil—

C. C. Castle,	10 cs.	
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Caoutchouc—

Rio de Janeiro,	2 cs.	
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Carbolic Acid—

Hong Kong,	5 c.	1 q. £9
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Carbonic Acid Gas—

Tocopilla,	1 t.	2 q. £30
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Castor Oil—

C. C. Castle,	10 cs.	
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Caustic Potash—

Melbourne,	1 t. 1 c.	£32
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Caustic Soda—

Alexandria,	17 dms.	
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China Clay—

Boston,	120 t.	
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Coal Products—

Antiline Colours		
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Chloride of Lime—

Callao,	1 t. 2 c.	2 q. £34
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Castor Oil—

C. C. Castle,	10 cs.	
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Aniline Salts

Boston,	30 cs.	
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Anthracene

Rotterdam,	24 cks.	
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Creosote Oil

Lisbon,	225 brls.	
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Naphthol Colours

New York,	9 cks.	
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Pitch

Malta,	25 brls.	
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Tar

Old Calabar,	13 brls.	
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Copper Sulphate—

Dunedin,	10 c.	£8
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Disinfectants—

Calcutta,	1 t.	£8
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Glue—

Porto Plato,	2 brls.	
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Gypsum—

Santos,	5 t.	£9
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Iron Oxide—

Gijon,	1 t. 14 c.	£11
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Lead Acetate—

Tampico,	1 kg.	
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Litharge—

Philadelphia,	5 cks.	
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Para,	23 pags.
Patras,	2
Pt. Said,	2 9 brs.
Principe,	1
Rio de Janeiro,	16 212
St. Nazaire,	25
Sanchez,	2
Sao Thome,	1 cs.
Praca,	37 pags.
Rangoon,	200 bgs.
Rotterdam,	53
St. John, N. B.,	25 brs.
Salt Pond,	61 cs.
Savanna,	1
Sierra Leone,	298
Stettin,	50 bgs.
Sydney,	51
Talcabano,	27
Tampico,	13 4 brs.
Teneriffe,	4 dms.
Trieste,	20
Valencia,	1
Valparaiso,	30
Amsterdam,	5
Barranquilla,	380
Benguela,	70
Bordeaux,	26
Calcutta,	70
Cienfuegos,	5 brs.
Colon,	4
La Libertad,	1 100
Lisbon,	1 cs.
Mataas,	2
Odesa,	25
Old Calabar,	1
Piraeus,	10

Painters' Colours—

Bahia,	1 cs. 6 cks.
Bombay,	50
Boston,	37 kgs. 170 brs.
B. Ayres, 100	76 50
Calcutta, 20	
Ghent,	5
Madras,	5
Melbourne,	4
New York,	5 1
Sydney,	21
Yokohama,	8
Akassa,	20
Antwerp,	15 8 6
7 dms.	
Baltimore,	338 35
Carupano,	40 1
Ceara,	26
Coquimbo,	15
Genoa,	40
Hamburg,	300 bgs.
Lisbon,	41
Malta,	301 2 brs.
Marseilles,	10 20
M. Video,	10 4 cs.

Paraffin Wax—

Pernambuco,	10 cs.
Salonica,	39 cks.
Smyrna,	10

Phosphorus—

Vera Cruz,	12 c. £134
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Picric Acid—

Boston,	1 c. 3 q. £13
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Plumbago—

Carril,	2 cks.
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Potash Salts—

Corinto,	1 t. 2 c. £180
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Potassium Bichromate—

Vera Cruz,	15 c. 2 q. £33
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Potassium Carbonate—

Seville,	1 t. 2 c. 2 q. £25
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Potassium Chlorate—

Rotterdam,	2 t. £90
E. London,	10 c. 24
Reval,	8 10 336
Stockholm,	8 295
Stettin,	7 272
Randers,	2 76
Rostock,	1 45
Newfairwater,	2 117
Tampico,	10 21
B. Ayres,	1 5 39
Riga,	10 410
Philadelphia,	5 208
Higo,	17 10 668
New York,	17 10 665

Potassium Nitrate—

Valencia,	5 c. £7
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Potassium Stannate—

Bombay,	1 t. 4 c. £69
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Salt—

Amsterdam,	308 t.
Bahia,	221 4 c.
Demerara,	169 11
Halifax,	209
Monrovia,	10
Portland, M.,	372

Rotterdam,	271
Pt. Royal,	2,100
St. John's, N. B.,	60
Salt Pond,	26 13
Sapeli,	7 16
Shanghai,	10
Sierra Leone,	100
Sydney,	167 2
Trinidad,	24 21
Valparaiso,	1 16
Algoa Bay,	27 17
Antwerp,	202
Bakana,	54
Baltimore,	205
Boston,	100
B. Ayres,	50
Calcutta,	2 3
Galveston,	2,868 4
Ghent,	265
Hamburg,	110 10
Lagos,	20
N. Orleans,	450
Newport News,	235
New York,	65
Old Calabar,	50
Opobo,	150
Para,	35 14

Salt Cake—

Philadelphia,	180 t. 9 c. £249
Baltimore,	100 11 189
Antwerp,	50 2 108

Saltpetre—

Maceio,	19 c. 3 q. £93
La Paz,	4 6
Portland, O.,	1 t. 2 23
Wellington, N. Z.,	1 24
Callao,	3 1 71

Sheep Dip—

Cape Town,	2 t. 13 c. £120
Natal,	2 70
B. Ayres,	15 3 9
Calcutta,	1 19 1 q. 44
Punta Arenas,	13 400

Slag—

Vera Cruz,	10 t.
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Soap—

Algoa Bay,	1,410 bxs. 70 cs.
Amsterdam,	50
Antwerp,	25
Baltimore,	19
Benin,	100
Bombay,	1,105 3 cks. 25
625 bds.	
Calcutta,	38
C. C. Castle,	5
Cape Lahou,	15
Cape Town,	2,305
Colon,	1
Curacao,	607
Demerara,	3,420
E. London,	2,660
Gibraltar,	263
Gd. Bassa,	56
Havre,	505
Malta,	70
Manaos,	400
Montserrat,	30
Mossel Bay,	457
Naples,	1
N. Orleans,	300
New York,	103 2,021
Para,	100
Parnahyba,	102
Pt. Elizabeth,	1,130
Rangoon,	404
S. John's, N. Yd.,	698
St. Lucia,	80
St. Nazaire,	150
Portland,	4 500
Rio de Janeiro,	1 ble. 500
Sandy Point,	8
Savanna,	7
Sierra Leone,	301
Singapore,	16
Smyrna,	50
Sydney,	1,884
Teneriffe,	405
Trinidad,	350
Valparaiso,	18
Adjuah,	5
Aden,	100
Alexandria,	8
Antofagasta,	52
Barbadoes,	200
Boston,	1,500
Callao,	30
Delagoa Bay,	25
Drewin,	33
Genoa,	59
Halifax,	200
Las Palmas,	1,200
Philadelphia,	1,000 20 brs.

Soda—

Vera Cruz,	28 cks.
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Soda Alkali—

Dunedin,	40 brs.
Genoa,	70
Melbourne,	48
Panama,	51
Portland, Me.,	35
Talcabano,	20

Soda Ash—

Alexandretta,	25 kgs.
Antwerp,	450 bgs.
Baltimore,	598
Boston,	1,000 190 cks. 113 tcs.
Genoa,	100
Para,	10 kgs.
Paysandu,	75 brs.
Philadelphia,	3,160 671 92 tcs.
Rotterdam,	980
St. John's, N. B.,	25 brs.
San Francisco,	
Sourabaya,	50
Sydney,	286 50
Syra,	50
Wellington,	170
Yokohama,	200
Amsterdam,	5
Callao,	117
Newport News,	800
New York,	1,384 652 dms. 282 tcs.

Soda Crystals—

Boston,	140 brs. 250 bgs. 280 cks.
Calcutta,	40
Cape Town,	25
Samarang,	100 kgs.
Yokohama,	1,920
Alexandria,	100
Malta,	100
Portland, Me.,	5 cks.

Sodium Bicarbonate—

Bombay,	51 kgs. 50 bgs.
Genoa,	5 cks.
Paris,	84 6
Portland, Me.,	100
St. John's, N. Yd.,	10
Pt. Natal,	20
Riga,	100
Sourabaya,	20
Sydney,	67
Vera Cruz,	10
Wellington,	240 50
Adelaide,	140 50
Almeria, 5 brs.	10 4
Amsterdam,	50
Barcelona,	30
Boston,	150 10
B. Ayres,	50 25 brs.
New York,	140 210 167
Para,	10
Paris,	140

Sodium Carbonate—

New York,	196 brs.
Amsterdam,	4

Sodium Chlorate—

New York,	60 kgs.
Rotterdam,	4
Boston,	100

Sodium Hyposulphite—

San Francisco,	100 kgs.
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Sodium Oxide—

Melbourne,	4 cs.
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Sodium Silicate—

Calcutta,	16 cks.
Cartagena, Sp.,	10
Las Palmas,	10
Lisbon,	100
Maranham,	5
Melbourne,	19
New York,	10 brs.
Rio de Janeiro,	16
Seville,	70

Sodium Sulphate—

Callao,	13 cks.
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Starch—

Para,	1 cs.
Patras,	30
Pisco,	2 brs.

Sulphur—

Ceara,	6 c. £5
Philadelphia,	116 t 2 377
Boston,	200 5 641
Portland, Or.,	97 11 580

Sulphuric Acid—

Rio de Janeiro,	4 t. 16 c. £40
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Superphosphate—

Las Palmas,	5 . £17
Nantes,	29 10 c. 2 q. 52

Treacle—

Gothenburg,	75 brs.
Rotterdam,	50
Terneuzen,	5 t. 3 c. 2 cks.
Antwerp,	12 brs.
Ghent,	25 bl. pms.

Turpentine—

B. Ayres,	90 cs.
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Varnish—

Barcelona,	17 cks.
Malta,	4 cs.
Oporto,	
Rio de Janeiro,	
San Francisco,	
Rotterdam,	6
Seville,	7
Segli,	2
Sydney,	2
Valparaiso,	7
Alexandria,	2
Bombay,	2 1 10
Genoa,	

White Lead—

Bahia,	111 kgs.
Ferrol,	50
Tampico,	50

Whiting—

Sydney,	50 brs.
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Zinc Chloride—

Bombay,	25 t. 22 c.
Piraeus,	4 15

MANCHESTER

Week ending December 1

Alkali—

Kotka,	20 cks.
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Aniline Colours—

Rotterdam,	1 cs.
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Aniline Oil—

Antwerp,	8 dms.
Rotterdam,	1 tin
Rouen,	5
Barcelona,	11 cks.

Boiler Composition—

Barcelona,	10 cks.
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Chemicals (otherwise under)

Alexandria,	200 brs.
Rohat,	25
Barcelona,	10 cks.
Bombay,	15
Rio de Janeiro,	5

Coal Tar Dyes—

Rouen,	1 kg.
Hamburg,	1
Rio de Janeiro,	5 cks.

Coal Tar Products (other

undiscribed)—

Antwerp,	2 pags. 401
Hamburg,	17 cks. 350
Treport,	21 111
Barcelona,	3

Dyestuffs (otherwise under)

Bombay,	4 cs.
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Extracts—

Rotterdam,	25 cks.
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Linseed Oil—

Beyrout,	7 bds.
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Manure—

Barcelona,	100 bgs.
Valencia,	109

Paint—

Beyrout,	1 kg.
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Painters' Colours—

Rotterdam,	1 c. 1 kg.
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Paraffin Wax—

Barcelona,	20 bgs.
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Pitch—

Antwerp,	123 t. 3 c.
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Soap—

Hamburg,	2 pms.
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Tar Oil—

Antwerp,	10 dms.
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Tar Salts—

Hamburg,	16 cks.
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Turpentine—

Beyrout,	5 brs.
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HULL

Week ending December 1

Alkali—

Riga,	214 bgs.
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Ammonium Sulphate—

Antwerp,	233 bgs.
Dunkirk,	199
Hamburg,	300
Leghorn,	185
Palermo,	50

Anthracene—

Amsterdam,	274 cks.
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162 cks.	12 dms.
24	
Soda—	
17 cs.	4 dms.
140 pks.	104
<i>(otherwise undes.)—</i>	
28 cs.	
18	
46 cks.	
15	6
130 pks.	
50	60 brls.
14	29
117	8
6	28 pks.
1	182
20	
80 pkgs.	
4	52
25	9
2	
10 kgs.	14 pks.
11	54
3	
6	
Oil—	
790 c.	
978	
320	
78	
161	
33	
1,105	
300	
Salts—	
241 bgs.	
<i>(otherwise undescribed)</i>	
3 cks.	10 dms.
6	3 cs.
1	1
10 c.	
103	
7	
34	
43	
100	
55	
219	
76	
128	
505 sks.	
714 t.	
Colours—	
1 cs. 7 cks.	56 pks.
25	1 dm. 3 pkgs.
4	6
5	5
1	1
20	
10	
1	1
3	
4	87
3	
6	
2	
1	10
150	80
10	
2	
19	
1	
3	23
2	2 pks.
Wax—	
31 brls.	
160 t.	
130	
2 cs.	
100 cs.	
30 cks.	
28	
5	
42 trcs.	
5 cks.	
3	

Copenhagen,	10
Genoa,	9
Rotterdam,	3
Varnish—	
Antwerp,	1 cs.
Gothenburg,	1
Hamburg,	1
Leghorn,	2 cks.
Marseilles,	4
Rotterdam,	1
Stettin,	11
Stockholm,	2

GLASGOW.

Week ending December 19th.

Acetate of Lime—	
Bombay,	£26
Albumen—	
U.S.A.,	£158
Ammonium Sulphate—	
Demerara,	1,085 t. 6½ c.
Hamburg,	50 13
Genoa,	12 3½
Boiler Composition—	
Christiansand,	£9
Bleaching Powder—	
Baltimore,	19 t. 13½ c.
Bombay,	1 17½
Melbourne,	7 6¼
Valparaiso,	1 5½
Borax—	
Alg. Bay,	£27
Castor Oil—	
Adelaide,	£50
Sydney,	45
Caustic Soda—	
Seville,	10 t. 8½ c.
N'castle, NSW.,	41 14
Coal Products—	
Aniline	£60
U.S.A.,	£75
Carbolic Acid	
Rotterdam,	
Creosote Salts	
Antwerp,	100 t.
Naphtha	
Antwerp,	70 t.
Pitch	
U.S.A.,	£150
Antwerp,	1,005 t.
Hamburg,	302
Ancona,	£1,111
Civita Vecchia,	731
Leghorn,	615
Naples,	150
Tar	
Bombay,	£144
U.S.A.,	165
Boston,	110
Cod Oil—	
Melbourne,	£81
Copperas—	
Bombay,	£95
Dyestuffs—	
Extracts	
Canada,	£307
Sydney,	26
Victoria, Aust.,	68
Christiansand,	19
Boston,	162
Logwood	
Canada,	1 t. 12 c.
Farina—	
Sydney,	£44
Glucose—	
Cape Town,	5 t. 6 c.
Iodine—	
Rotterdam,	£1,315
Iron Sulphate—	
Bombay,	£55
Lead Nitrate—	
U.S.A.,	£64
Linseed Oil—	
Canada,	1 t. 4¾ c.
Cape Town,	1 5
Valparaiso,	2¾
Sydney,	7 ½
Magnesium Sulphate—	
Canada,	£66
Sydney,	2 t. 3¾ c.
Manure—	
Seville,	10 t. 7½ c.
Paint—	
Algoa Bay,	£27
Havana,	54
Natal,	61
U.S.A.,	20
Adelaide,	3 t. 17 c.
Sydney,	270

Painters' Colours—

Cape Town,	£35
Rotterdam,	50
Bombay,	200
Demerara,	19
Melbourne,	581
Valparaiso,	146
Hobart,	130
U.S.A.,	50
Paraffin Wax—	
Antwerp,	£31
Bombay,	80
Fiume,	560
Genoa,	410
Leghorn,	336
Naples,	114
Venice,	70
Potassium Bichromate—	
Antwerp,	£200
Rouen,	672
Victoria, Aust.,	63
Bari,	68
Boston,	164
Genoa,	146
Naples,	17
Venice,	318
Potassium Prussiate—	
U.S.A.,	£567
Bombay,	5½ c.
Slag—	
Rotterdam,	56 t.
Sodium Bichromate—	
Antwerp,	5 t. 8 c.
Ghent,	10 3
Rouen,	5 ½
Genoa,	23 15½
Naples,	5 1½
Sulphuric Acid—	
Bombay,	£40
Superphosphates—	
Demerara,	16 t. 7¾ c.
Tallow—	
Rotterdam,	2 t. 10 c.
Treacle—	
E. London,	1 t. 15 c.
Christiania,	66 19
Varnish—	
Sydney,	£224
White Lead—	
Sydney,	£315
Zinc Sulphate—	
Bombay,	£25

TYNE.

Week ending December 14th.

Alkali—	
Amsterdam,	38 t. 15 c.
Gothenburg,	5 8
Riga,	5 17
Ammonia—	
Barcelona,	10 c.
Aalborg,	5 t.
Aarhuus,	5
Ammonium Chloride—	
Barcelona,	2 t.
Anthracene—	
Rotterdam,	38 t. 12 c.
Antimony—	
Hamburg,	5 t.
Barcelona,	1
Arsenic—	
Barcelona,	1 t. 17 c.
Rouen,	10 5
Barytes—	
Antwerp,	5 t.
Rouen,	40 9 c.
Bleaching Powder—	
Antwerp,	182 t. 18 c.
Genoa,	6
Hamburg,	2
Gothenburg,	20 5
Christiania,	17 19
Bergen,	2 11
Rotterdam,	24 17
Harlingen,	35 2
Amsterdam,	67 15
Carbolic Acid—	
Aalborg,	12 c.
Caustic Soda—	
Amsterdam,	7 t. 19 c.
Antwerp,	5 8
Genoa,	3 15
Hamburg,	54 11
Barcelona,	108 11
Bilbao,	12 9
Riga,	10 3
Copenhagen,	13 2
Rotterdam,	87 4

Harlingen,	4 9
Tunis,	2 18
Bombay,	6 5
Colours—	
Genoa,	3 c.
Litharge—	
Hamburg,	4 t. 10 c.
Christiania,	3 5
Magnesia—	
Barcelona,	25 t.
Manganese—	
Bilbao,	50 t.
Oxalic Acid—	
Barcelona,	5 t. 12 c.
Paint—	
Bilbao,	2 t. 7 c.
Copenhagen,	12
Rotterdam,	4
Trieste,	10
Phosphorus—	
Barcelona,	2 t.
Saltpetre—	
Aarhuus,	3 t.
Soda—	
Amsterdam,	20 t.
Hamburg,	51 8 c.
Gothenburg,	13 6
Christiania,	5
Aalborg,	4 13
Trondheim,	15 2
Rotterdam,	18 5
Holback,	70
Bergen,	5 7
Soda Ash—	
Christiania,	15 t. 6 c.
Bergen,	5
Sodium Silicate—	
Tunis,	10 t. 12 c.
Sodium Sulphate—	
Terneuzen,	200 t.
Sulphur—	
Terneuzen,	6 t. 1 c.
Gothenburg,	35
Christiania,	25
Rotterdam,	50
Varnish—	
Genoa,	3 c.
White Lead—	
Hamburg,	2 t. 5 c.
Copenhagen,	2 9

GOOLE.

Week ending December 11th.

Benzol—	
Boulogne,	72 cks.
Chemicals (otherwise undescribed)	
Boulogne,	3 cks.
Coal Products (otherwise undes.)—	
Ghent,	64 cks. 2 cs. 6 tins
Hamburg,	5 12
Rotterdam,	533 1
Manure—	
Boulogne,	39 bgs.
Painters' Colours—	
Boulogne,	8 cks. 4 cs.
Ghent,	2
Pitch—	
Antwerp,	198 t.

GRIMSBY.

Week ending December 14th.

Alkali—	
Hamburg,	23 cs.
Dieppe,	2 cks.
Chemicals (otherwise undescribed)	
Antwerp,	10 cks.
Hamburg,	32
Coal Products (otherwise undes.)—	
Antwerp,	3 cks.
Dieppe,	150
Hamburg,	1 1 cs. 14 pkgs.
Rotterdam,	9
Colours—	
Antwerp,	7 cks. 3 cs.
Hamburg,	11
Dyestuffs (otherwise undescribed)	
Dieppe,	15 cks.
Soap—	
Dieppe,	3 cs.

PRICES CURRENT.

TUESDAY, DEC. 24TH

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

Acids:—		£ s. d.
Acetic, 25 % and 40 %	per cwt.	6/ & 9/-
" Glacial	"	10/-
Arsenic S.G., 2000°	"	0 16 0
Fluoric	per lb.	0 0 3 1/4
Muriatic (Tower Salts), 30° Tw.	per bottle	0 0 10
" (Cylinder), 30° Tw.	"	0 3 0
Nitric 80° Tw.	per lb.	0 0 1 5/8
Nitrous	"	0 0 1 1/4
Oxalic	nett	0 0 3 1/2
Phosphoric, 1750°	"	0 1 1
Picric	"	0 0 10
Sulphuric (fuming 50 %	per ton	15 10 0
" (monohydrate)	"	5 10 0
" (Pyrites, 168°)	"	3 0 0
" " 150°	"	1 5 0
" (free from arsenic, 145°)	"	1 7 6
Sulphurous (solution) S.G. 1025	"	3 0 0
Tannic (pure)	per lb.	0 1 0
Tartaric	"	0 1 2
Arsenic, white powdered	nett per ton	15 15 0
Alum (loose lump)	"	4 12 6
Alumina Sulphate (pure)	"	4 12 6
Aluminoferrous	"	2 7 6
Aluminium	per lb.	0 2 10
Ammonia, Anhydrous	"	0 1 3
" 880=28° B.	per lb.	0 0 3
" =24° B.	"	0 0 2 1/4
" Carbonate	nett	0 0 3 1/4
" Muriate	per ton	22 15 0
" (sal-ammoniac) 1st & 2nd	per cwt.	39/ & 37/-
" Nitrate	per ton	38 10 0
" Phosphate	per lb.	0 0 6 1/4
" Sulphate (grey) London	per ton	8 12 6
" (grey) Hull	"	8 11 3
Aniline Oil (pure)	per lb.	0 0 8
Aniline Salt	"	0 0 7 1/4
Antimony	per ton	30 5 0
" (tartar emetic)	per lb.	0 0 7 1/2
" (golden sulphide)	"	0 0 10
Barium Chloride	per ton	6 7 6
" Carbonate (native)	"	3 5 0
" Sulphate (native levigated)	"	42 6 to 65/-
Bleaching Powder, 35 %	nett	7 0 0
" Liquor, 7 %	"	3 10 0
Bisulphide of Carbon	"	12 15 0
Chromium Acetate (crystal)	per lb.	0 0 6
Calcium Chloride	per ton	2 2 6
China Clay (at Runcorn) in bulk	"	15/- to 30/-
Coal Tar Products and Dyes:—		
Alizarine (artificial) 20 %	nett per lb.	0 0 7 1/4
Magenta	"	0 3 9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0 0 11 1/2
Benzol, 90 %	per gallon	0 2 4
" 50/90	"	0 2 2
Carbolic Acid (crystallised 40°)	per lb.	0 0 6 1/2
" (crude 60°)	per gallon	0 1 9
Creosote (ordinary)	"	0 0 1 1/2
" (filtered for Lucigen light)	"	0 0 2
Crude Naphtha 30 % @ 120° C.	"	0 0 10
Grease Oils, 22° Tw.	per ton	2 10 0
Pitch, f.o.b. Liverpool or Garston	"	1 14 6
Solvent Naphtha, 90 % at 160°	per gallon	0 1 6
" Lucigen" and "Wells" Oils	"	0 0 2 1/2
Copper	per ton	42 7 6
" Sulphate	"	16 5 0
" Oxide (copper scales)	"	41 10 0
Glycerine (crude)	"	37 10 0
" (distilled S.G. 1250°)	"	75 0 0
Iodine	nett, per oz.	0 0 7 1/2
Iron Sulphate (copperas)	per ton	1 5 0
" Sulphide (antimony slag)	"	2 0 0
Lead (sheet) for cash	"	12 10 0
" Litharge Flake (ex ship)	"	14 0 0
" Acetate (white " ")	"	21 10 0
" " brown " ")	"	16 0 0
" Carbonate (white lead) pure	"	16 0 0
" Nitrate	"	19 0 0
Lime, Acetate (brown) (ex ship)	per ton	18
" " (grey)	"	21
Magnesium (ribbon and wire)	per oz.	0
" Chloride (ex ship)	per ton	2
" Carbonate	per cwt.	1
" Hydrate	per ton	17
" Sulphate (Epsom Salts)	per ton	3
Manganese, Sulphate	"	17
" Borate	per cwt.	2
" Ore, 70 %	per ton	3
Methylated Spirit, 61° O.P.	per gallon	0
Naphtha (Wood), Solvent	"	0
" " Miscible, 60° O.P.	"	0
Oils:—		
Cotton-seed	per ton	18
Linseed	"	21
Petroleum, American	per gallon	0
Stearine	per ton	24
Phosphorus (yellow)	per lb.	0
" (red)	"	0
Potassium (metal)	per oz.	0
" Bichromate	nett per lb.	0
" Carbonate, 90% (ex ship)	per ton	17
" Chlorate	per lb.	0
" Cyanide, 98%	"	0
" Hydrate (Caustic Potash) 90 %	per ton	24
" " (Caustic Potash) 75/80 %	"	21
" " (Caustic Potash) 70/75 %	"	20
" Nitrate (refined)	per cwt.	1
" Permanganate	per cwt.	2
" Prussiate Yellow	per ton	0
" Sulphate, 90 % (ex ship)	per ton	0
" Muriate, 80 % (do.)	"	8
Silver (metal)	per oz.	0
" Nitrate	"	0
Sodium (metal)	per lb.	0
" Carb. (refined Soda-ash) 48 %	nett per ton	4
" " (Caustic Soda-ash) 48 %	"	4
" " (Carb. Soda-ash) 48 %	"	4
" " (Alkali) 58 %	"	3
" " (Soda Crystals)	"	2
" Acetate (ex-ship)	"	14
" Arseniate, 45 %	"	11
" Chlorate	per lb.	0
" Borate (Borax)	nett, per ton	19
" Bichromate	per lb.	0
" Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	"	9
" " (74 % Caustic Soda)	"	8
" " (70 % Caustic Soda)	"	7
" " (60 % Caustic Soda)	"	6
" " (60 % Caustic Soda, cream) (f.o.b.)	"	6
" Bicarbonate	"	6
" Hyposulphite	"	5
" Manganate, 30%	"	10
" Nitrate (95 % ex-ship Liverpool)	per cwt.	0
" Nitrite, 98 %	per ton	30
" Phosphate	"	13
" Silicate (glass)	per ton	4
" " (liquid, 100° Tw.)	"	1
" Stannate, 40 %	per cwt.	3
" Sulphate (Salt-cake)	per ton	1
" " (Glauber's Salts)	"	1
" Sulphide	"	8
" Sulphite	"	5
Strontium Hydrate, 100%	"	5
Sulphocyanide Ammonium, 95 %	per lb.	0
" Barium, 95 %	"	0
" Potassium	"	0
Sulphur (Flowers)	per ton	7
" (Roll Brimstone)	"	5
" Brimstone: Best Quality	"	3
Superphosphate of Lime (20 %	"	2
Tallow	"	23
Tin Crystals	per lb.	0
" English Ingots	per ton	65
Zinc (Spelter)	"	14
" Chloride (solution, 100° Tw.)	"	5

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WM. HENRY TALBOT, Town Clerk.
Town Hall, Manchester, 29th June, 1895.

Miscellaneous.

Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.

NORTH WALES—CAE COCH MINE, TREFRIW.

TO BE SOLD BY AUCTION, pursuant to an Order of the Court of Chancery of the County Palatine of Lancaster, made in an action, Mitchell v North Wales Sulphur Mining Company, Limited, 1895, M. No. 185, by Mr. JOSEPH BYTHILL LEACH, the person appointed by the Registrar, to sell the same before the Registrar, on Thursday, the 25th day of July, 1895, at 2 for 2-30 o'clock in the afternoon prompt, at the Law Association Rooms, Cook-street, in the city of Liverpool, certain Leasehold Mines of SULPHUR, PYRITES, WATER RIGHTS, and QUARRY, known as the CAE COCH SULPHUR MINES and COED GWYDYR ISSA QUARRY, situate at or near Trefriw, in the County of Carnarvon. And the MACHINERY, PLANT STORES, WAGONS, and STOCK-IN-TRADE held with the same Mines.

The above Property was until recently worked by the NORTH WALES SULPHUR MINING COMPANY, LIMITED.

Particulars and Conditions of Sale may be had gratis at the Chancery Office, 2, Cook-street, Liverpool; of Mr. J. L. Tunstall, Bewsey Chambers, Warrington, Chartered Accountant; of the Auctioneer, Mr. J. B. Leach, 81, Dale-street, Liverpool, and Hardshaw-street, St. Helens, a d of the undersigned Solicitors; and an Inventory of the said Machinery, Plant, Stores, Wagons, and Stock-in-Trade may be seen at the offices of

Messrs. OPPENHEIM & MALKIN,
Solicitors, 61, Lord-street, Liverpool, and Windle Chambers, St. Helens.

BELGIAN GENTLEMAN, age 35, not speaking English fluently, good Analytical Chemist, seeks SITUATION as Assistant in Laboratory; Diploma. Address, M. 239, Chemical Trade Journal Office, Manchester.

ADVERTISER desires Appointment as Chemical Works Manager, home or Colonies; has had 16 years' experience in the Erection and Management of Plant. Good Technical Chemist, accustomed to working up new processes; excellent references.—Address: "Practical," Chemical Trade Journal Office, Manchester.

GAS PRODUCER FOR SALE (Wilson type), 8 ft. diam. by 13 ft. high, with Korting jet blowers; all in first-class condition Price £25. Can be seen in London at any time by appointment.—Address W.W., care of R. F. White & Son, 33, Fleet-st., London, E.C.

SITUATION WANTED by Young German speaking French and English; knowing Book-keeping and Shorthand; well acquainted with the Colour and Chemical Trades, and with the manufacture of Cyanide of Potassium.—Please address, S3348, care of Rudolf Mosse, Cologne.

ENGAGEMENT WANTED in Laboratory, agricultural or other; advertiser has just completed course of training under public analyst. References. "Chemist," 27, Dorchester-place, Blandford-square, London, N.W.

WORKS CHEMIST.—Young Chemist, aged 24, desires Situation, either as Assistant in Laboratory or Works; had experience in both. Highest references.—Address A. E. 264, Chemical Trade Journal Office, Manchester.

FOR SALE, or would take Partner, SMALL WORKS few miles from Manchester. Suitable for Soda Crystals, Epsoms, Glaubers, or as a Works for treating Galvanizers' Flux Skimmings.—Address W., Chemical Trade Journal Office, Manchester.

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CORRESPONDENCE SOLICITED.

Miscellaneous.—Cont.

NEW RECIPES, INVENTIONS,
& SPECIALITIES in Oils, Greases, Soaps, Paints, Varnishes, Enamels, Blackings, Blues, Polishes, etc., etc., practical working recipes with latest improved English. Continental and American methods, Prize and Gold Medal brands. Cheapened Substitutes, Utilization of Wastes and Refuse, etc.; any samples matched. Write for Lists.—Lewis Jameson, Balmoral-buildings, 91, Queen Victoria-street, London, E.C., and at 47, College-street, Islington, London, N.

A STEAM FILTER PRESS
(Johnson) with 20 22-inch plates—engine, pump, and copper air-vessel. Low price.—R. W. Andrews and Co., 24, Grays Inn-road, London, W.C.

FOR SALE.—One 3ft. dia. **DISINTEGRATOR** for grinding bones, chemicals, paints, etc.; One 1ft. dia. Disintegrator for grinding bones, chemicals, paints, etc. One 9 x 5 Blake **STONE-BREAKER**. One Ball **MILL** for cements, phosphates, etc. A large quantity of Elevator Chains and Buckets at very low prices.—Apply, C. E. Hall, 55, Norfolk-street Sheffield.

PLATINUM Utensils, Scrap, Lamp Ends, etc. Best Prices given by Derby and Co., 44, Clerkenwell Road, London, E.C. N.B.—Platinum Sold.

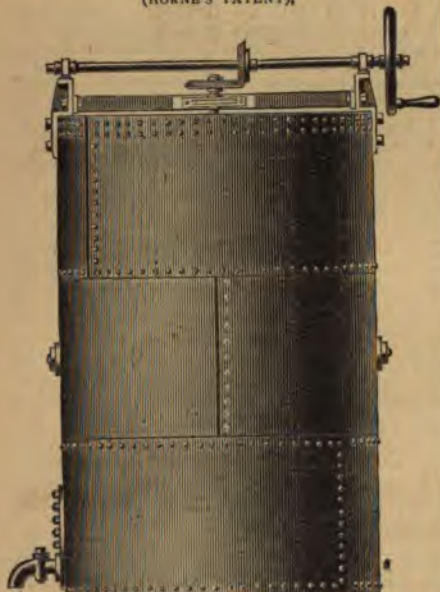
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HARPER'S LIST

OF ACCESSORIES for the TRANSMISSION of POWER, viz.:—BELT PULLEYS, ROPE PULLEYS, GEAR WHEELS, SHAFTING, COUPLINGS, PEDESTALS, FIXINGS; appears on Pages 14 and 15 of the first *Chemical Trade Journal* of each month

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MANUFACTURERS OF
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IN VITRIFIED STONEWARE.

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IRON and STEEL (butt or lap welded),
and **FITTINGS** for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 3in. diameter.
COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

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Especially suitable for certain materials, Wet or Dry.

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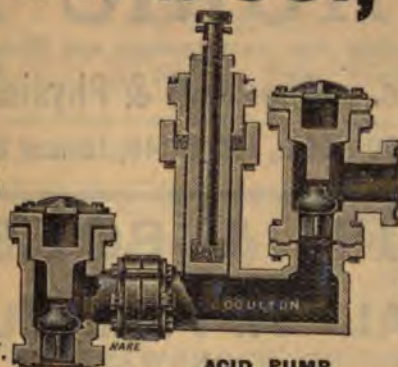
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CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

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Liverpool: Exchange Chambers.
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PRECIP. CARBONATE OF BARYTES 96/98%.Hydrate and Anhydrous Alumina, Chloride and Carbonate of
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GAS DEPARTMENT.

TENDER FOR TAR.

TENDERS are asked for the SurplusTar produced at the Gas Works, Ilkeston, for one
year, from August 1st next.Offers to be sent, addressed to WRIGHT LISSETT, Esq.,
Town Clerk, Ilkeston, before noon, July 22nd, on forms,
which may be obtained, and any further information, on
application to

F. C. HUMPHREYS,

Gas Works, July 4th, 1895.

Engineer.

Highest or any Tender not necessarily accepted.

Miscellaneous.Replies to Advertisements addressed to the
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NORTH WALES—CAE COCH MINE, TREFRIW.

TO BE SOLD BY AUCTION,pursuant to an Order of the Court of Chancery of
the County Palatine of Lancaster, made in an action,
Mitchell v North Wales Sulphur Mining Company,
Limited, 1895, M., No. 185, by Mr. JOSEPH BITHELL
LEACH, the person appointed by the Registrar, to sell the
same before the Registrar, on Thursday, the 25th day of
July, 1895, at 2 for 2-30 o'clock in the afternoon prompt, at
the Law Association Rooms, Cook-street, in the city of
Liverpool, certain Leasehold Mines of SULPHUR,
PYRITES, WATER RIGHTS, and QUARRY, known
as the CAE COCH SULPHUR MINES and COED
GWYDYR ISSA QUARRY, situate at or near Trefriw,
in the County of Carnarvon. And the MACHINERY,
PLANT STORES, WAGONS, and STOCK-IN-
TRADE held with the same Mines.The above Property was until recently worked by the
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Wigan, a practical SULPHATE MAKER.Applications, in writing only, with References (Testi-
monials will not be considered), to be addressed to

JOS. TIMMINS,

Wigan, June 1, 1895. Engineer, &c.

CHLORATE of POTASH—Wanteda Chemist, thoroughly competent to undertake this
manufacture, and able to supervise the erection of Plant.
—Apply confidentially, giving full particulars of previous
experience, and salary required, to "CHLORATE," Chemical
Trade Journal Office, Manchester.**ADVERTISER** desires appointmentas Chemical Works Manager, home or colonies; has
had 16 years' experience in the erection and management
of plant. Good Technical Chemist, accustomed to work-
ing up new processes; excellent references.—Address,
"Practical," Chemical Trade Journal Office, Manchester.**CHEMIST AND ASSAYER**(M.Sc., F.I.C., &c.), aged 27, is open to engagement
with a first-class firm. Has a knowledge of business, and
can take charge of men. Good Electrical knowledge.—
Address Q 268, Chemical Trade Journal Office, Man-
chester.**CHEMIST & DYER, F.I.C., F.C.S.,**seeks Appointment at home or abroad. Three years
in Russia. Experienced in Cop Dyeing, &c.—Address
F.M.D., 88, Theaker Lane, Armley, Leeds.**SITUATION Wanted; Experienced**Works Chemist, had charge of men and plant. Fel-
low Institute of Chemistry. Moderate salary. No objec-
tion to go abroad. Good testimonials. Address J.,
Chemical Trade Journal Office, Manchester.**WORKS CHEMIST—Young**Chemist, aged 24, desires Situation, either as
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Highest references.—Address A. E. 264, Chemical Trade
Journal Office, Manchester.

Miscellaneous.—Cont.

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DISINTEGRATORS.—A New Machine for £125, second to none, with 18 inch grinding chamber. Also Mortar Mill, 5ft. 6in. pan; for £94. A 10 x 6 New Stone Breaker, for £28; larger sizes in proportion, or can be had on hire, with option of purchase.—Mason Bros., late S. Mason and Co., Stone Breaking and Grinding Machine Makers, Brandon-street, Leicester.

PLATINUM Utensils, Scrap, Lamp Ends, etc. Best Prices given by Derby and Co., 44, Clerkenwell Road, London, E.C. N.B.—Platinum Sold.

AMMONIA, all qualities and strengths. Enquiries solicited. **BROTHERTON & Co.**, Birmingham, Leeds, and Wakefield.

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Manlove, Alliot & Co. Ltd.,
ENGINEERS,
NOTTINGHAM.

See Advertisement in first issue of this month.

WILLIAM BROWN,

Analyst, Assayer, and Technical Chemist. Oils, Sugars, Cereals, Wines, General Produce, or Ores, at Liverpool sampled, tested, and reported upon, for London or Provincial Houses, with care and despatch, on reasonable terms.

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ASSAYERS and ANALYTICAL CHEMISTS
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Weighing and Sampling of Minerals, Metals, and Metal Products superintended.

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For Grinding in **ONE OPERATION**, from **COARSE** to **FINEST POWDER** (CHANGED AT WILL)

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IRON and STEEL (butt or lap welded), and **FITTINGS** for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 3in. diameter.

COILS for heating, super-heating, distilling and refrigerating purposes, to 300 feet long without joints.

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Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCORAN

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WIRE WEAVER, MACHINE MANUFACTURER AND GENERAL MILL FURNISHER
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H Tartaric Acid	Glucose	Lumieres,
SALTS Salicylic Acid	Grape Sugar	Dry Plates,
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THE ECCLESHILL & BOLTON

GAS COMPANY invite Tenders for the Surplus Tar and Amonical Liquor to be produced at their Works, together or separately, for 12 months, from 1st September next. Can be delivered in contractor's tanks at the station (G.N.R.) Coal carbonized per annum, about 3,000 tons. Tenders sealed and endorsed must reach me not later than the 25th instant.

Eccleshill, Bradford,
17th July, 1895.

J. MELLOR,
Secretary.

Miscellaneous.

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pursuant to an Order of the Court of Chancery of the County Palatine of Lancaster, made in an action, Mitchell v North Wales Sulphur Mining Company, Limited, 1895, M., No. 185, by Mr. JOSEPH BITHELL LEMACH, the person appointed by the Registrar, to sell the same before the Registrar, on Thursday, the 25th day of July, 1895, at 2 for 2.30 o'clock in the afternoon prompt, at the Law Association Rooms, Cook-street, in the city of Liverpool, certain Leasehold Mines of SULPHUR, PYRITES, WATER RIGHTS, and QUARRY, known as the CAE COCH SULPHUR MINES and COED GWYDYR ISSA QUARRY, situate at or near Trefriw, in the County of Carnarvon. And the MACHINERY, PLANT STORES, WAGONS, and STOCK-IN-TRADE held with the same Mines.

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Solicitors, 61, Lord-street, Liverpool, and Windle Chambers, St. Helens.

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Wigan, a practical SULPHATE MAKER. Applications, in writing only, with References (Testimonials will not be considered), to be addressed to

JOS. TIMMINS,
Wigan, June 1, 1895. Engineer, &c.

WANTED, General Manager to a

Limited Company, principally engaged in the Manufacture of Alkali and Bleach. Must be thoroughly acquainted with the Chemical processes at present in use, and also with proposed Electrolytical processes. In addition to having a thorough knowledge of Practical Chemistry and Electricity, he must be capable of taking charge of the erection of plant, and assume the general management of the business. Permanent position and good remuneration. Any communication regarded as strictly confidential.—Address, giving full particulars and salary required, to "Alkali," care of Crossley Moir & Co., 57a, Coleman-street, London, E.C.

AGENTS for Tartar Emetic, Oxide

of Tin, and Glazing Ashes, well connected with Trade. wanted in all respective centres of Great Britain and Ireland.—Address "Emetic," Chemical Trade Journal Office, Manchester.

ARTIFICIAL MANURES.—An

important firm manufacturing Superphosphates, Bone Compounds, &c., have an opening for a young and energetic representative, with thorough knowledge of the trade and experience in appointing English agents, &c.—Address, in confidence, to "Agent," Chemical Trade Journal Office, Manchester.

ADVERTISER desires appointment

as Chemical Works Manager, home or colonies; has had 16 years' experience in the erection and management of plant. Good Technical Chemist, accustomed to working up new processes; excellent references.—Address, "Practical," Chemical Trade Journal Office, Manchester.

CHEMIST AND ASSAYER

(M.Sc., F.I.C., &c.), aged 27, is open to engagement with a first-class firm. Has a knowledge of business, and can take charge of men. Good Electrical knowledge.—Address Q 268, Chemical Trade Journal Office, Manchester.

CORRESPONDENCE SOLICITED.

Miscellaneous.—Cont.

SITUATION Wanted; Experienced
Works Chemist, had charge of men and plant. Fellow Institute of Chemistry. Moderate salary. No objection to go abroad. Good testimonials. Address J., *Chemical Trade Journal* Office, Manchester.

WANTED, a Junior Appointment
by a Young Man, 18 years of age, who has been well trained in Chemical Analyses, Soap-making, and Cotton Dyeing.—Address, "Junior," *Chemical Trade Journal* Office, Manchester.

WANTED, by Single Young Man,
Situation in a Chemical Manufacturer's or Tar Distiller's Office, the latter preferred. Good experience and references.—Apply, stating full particulars, to "Experience," *Chemical Trade Journal* Office, Manchester.

WORKS CHEMIST.—Young
Chemist, aged 24, desires Situation, either as Assistant in Laboratory or Works; had experience in both. Highest references.—Address A. E. 264, *Chemical Trade Journal* Office, Manchester.

YOUNG MAN wishes to extend
Experience in Chemical Works; good knowledge of Manufacture of Sulphuric Acid and Sulphate of Ammonia (Laboratory and Book-keeping). Excellent reference.—Address "Sulphate," *Chemical Trade Journal* Office, Manchester.

TO MANUFACTURERS' SONS.
Consulting Chemist and Chemical Engineer, of high repute, has a vacancy for a PUPIL or an IMPROVER. Thoroughly practical instruction. Premium required.—Apply "Pupil," *Chemical Trade Journal* Office, Manchester.

SMALL WORKS in Manchester
District, suitable for making any description of Chemicals. A good opening for young man commencing business. Only a small capital required.—Address W., *Chemical Trade Journal* Office, Manchester.

TO BE SOLD, the LANCASHIRE
MANURE COMPANY'S WORKS at Widnes with Machinery and 24,430 square yards of Freehold Land.—Address J. Hosking, 16, Fenwick Street, Liverpool.

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& SPECIALITIES in Oils, Greases, Soaps, Paints, Varnishes, Enamels, Blackings, Blues, Polishes, etc., etc., practical working recipes with latest improved English, Continental and American methods, Prize and Gold Medal brands. Cheapened Substitutes, Utilization of Wastes and Refuse, etc.; any samples matched. Write for Lists.—Lewis Jameson, Balmoral buildings, 91, Queen Victoria-street, London, E.C., and at 47, College-street, Islington, London, N.

A STEAM FILTER PRESS
(Johnson) with 20 22-inch plates—engine, pump, and copper air-vessel. Low price.—R. W. Andrews and Co., 24, Grays Inn-road, London, W.C.

FOR SALE.—One 3ft. dia. DISINTEGRATOR for grinding bones, chemicals, paints, etc.; One 3ft. dia. Disintegrator for grinding bones, chemicals, paints, etc. One 9 x 5 lb. STONE-BREAKER. One Ball MILL for cements, phosphates, etc. A large quantity of Elevator Chains and Buckets at very low prices.—Apply, C. E. Hall, 55, Norfolk-street, Sheffield.

PLATINUM Utensils, Scrap, Lamp
Folds, etc. Best Prices given by Derby and Co., 44, Clerkenwell Road, London, E.C. N.B.—Platinum sold.

AMMONIA, all qualities and
strengths. Enquiries solicited.
Buxton & Co., Birmingham, Leeds, and Wakefield.

HARPER'S LIST

OF ACCESSORIES for the TRANSMISSION of
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GEAR WHEELS, SHAFTING, COUPLINGS,
FLYWHEELS, &c. &c. appears on Pages 14 and
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BATTERY JARS, POROUS CELLS, &c., &c.

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"ECLECTIC" (PATENT) THE PATENT "ECLECTIC" DISINTEGRATOR

**DISINTEGRATOR.**

Each Machine complete with
Feeding Hopper and Patent
Return Air Chamber.

For Grinding in ONE OPERATION, from COARSE to
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MATERIALS OF THE MOST
VARIED DESCRIPTION

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FOR Chemicals, and Bone Manure, &c., &c.

Our latest Circular (sent on application) gives over 500 capacities on the
most varied materials (from A to W).

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16, Mark Lane, London, E.C.

(Working extensively in the United Kingdom and Abroad)
Several of our "Eclectic" Disintegrators have been supplied to Her Majesty's Government.

PURE SULPHUROUS ACID,
SULPHITES AND BISULPHITES OF LIME, SODA, &
FOR EXPORT.

S. KEYS & CO. Limited, WEST BROMWICH

TUBES

IRON and STEEL (butt or lap welded),
and FITTINGS for Gas, Water, Steam, Liquid
Ammonia, and Hydraulic Work,
galvanized white enamelled inside, or coated by Dr. Angus
Smith's Composition. In stock to 6in. diameter.
COILS for heating, super-heating, distilling and
refrigerating purposes, to 300 feet long without joints.

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Globe Tube Works, Wednesbury, and 14, Great St.
Thomas Apostle, Cannon-st., London, E.C.

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MILLSTONE BUILDING
WIRE WEAVER, MACHINE MANUFACTURER
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Sole Maker of MILBURN'S
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Especially suitable for certain
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EVERY DESCRIPTION.

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ACID PUMPS.**Each Pump prior to
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Tenders.RHYL URBAN DISTRICT COUNCIL.
GAS DEPARTMENT.

TENDERS FOR TAR AND LIQUOR.

THE GAS COMMITTEE of the
RHYL URBAN DISTRICT COUNCIL are
prepared to receive TENDERS for the purchase of the
Surplus Tar and Liquor produced at their works during a
period of one year, commencing 1st August, 1895.Sealed Tenders addressed to the Chairman of the Gas
Committee, and endorsed "Tenders for Residuals," must
be delivered at the Gas Offices, Rhyl, on or before the
29th inst.The Committee do not bind themselves to accept the
highest or any Tender.Other particulars may be obtained of the undersigned.
LEONARD G. HALL,
The Gas Offices, Rhyl, July 20th, 1895. Manager.

LEIGH URBAN DISTRICT COUNCIL.

THE GAS COMMITTEE of the
LEIGH URBAN DISTRICT COUNCIL invite
TENDERS for the purchase of the Surplus Tar produced
at their Gas Works for a period of one year from the 1st
of September next.All particulars, with form of Tender, may be had from
the undersigned.Sealed Tenders endorsed "Tar," and addressed to the
Chairman of the Gas Committee, to be delivered at the
Town Hall, Leigh, on or before Monday, the 18th of
August next.

The highest or any Tender not necessarily accepted.

A. T. FLETCHER,
Gas Works, Leigh,
Lancashire,
July 23rd, 1895. Engineer and Manager.**Miscellaneous.**Replies to Advertisements addressed to the
"Chemical Trade Journal" Office are forwarded to
Advertisers, post free.

BRADFORD TECHNICAL COLLEGE.

WANTED, a Head Master of the
Chemistry and Dyeing Department. The person
appointed will be required to commence early in September
next, if possible, and devote the whole of his time to the
duties of the appointment. A Prospectus of the depart-
ment may be had of the undersigned, to whom applications,
stating age, experience, qualifications or diplomas, and
salary required, must be sent as soon as possible.JOHN NUTTER,
July 16th, 1895. Secretary.AGENTS for Tartar Emetic, Oxide
of Tin, and Glazing Ashes, well connected with
Trade, wanted in all respective centres of Great Britain
and Ireland.—Address "Emetic," *Chemical Trade Journal*
Office, Manchester.ADVERTISER desires appointment
as Chemical Works Manager, home or colonies; has
had 16 years' experience in the erection and management
of plant. Good Technical Chemist, accustomed to work-
ing up new processes; excellent references.—Address,
"Practical," *Chemical Trade Journal* Office, Manchester.CHEMIST AND ASSAYER
(M.Sc., F.I.C., &c.), aged 27, is open to engagement
with a first-class firm. Has a knowledge of business, and
can take charge of men. Good Electrical knowledge.—
Address Q 268, *Chemical Trade Journal* Office, Man-
chester.SITUATION Wanted; Experienced
Works Chemist, had charge of men and plant. Fel-
low Institute of Chemistry. Moderate salary. No objec-
tion to go abroad. Good testimonials. Address J.,
Chemical Trade Journal Office, Manchester.WANTED, a Junior Appointment
by a Young Man, 18 years of age, who has been
well trained in Chemical Analyses, Soap-making, and
Cotton Dyeing.—Address, "Junior," *Chemical Trade*
Journal Office, Manchester.WANTED, by an A.I.C., an Engage-
ment as Analyst's Assistant in September next;
age 22; highest references.—Address E. S. H., Oakfield
Road, Clifton, Bristol.WORKS CHEMIST.—Young
Chemist, aged 24, desires Situation, either as
Assistant in Laboratory or Works; had experience in both.
Highest references.—Address A. E. 264, *Chemical Trade*
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Miscellaneous.—Cont.

SMALL WORKS in Manchester District, suitable for making any description of Chemicals. A good opening for young man commencing business. Only a small capital required.—Address W. Chemical Trade Journal Office, Manchester.

TO BE LET.—The Aqueduct Works, Marple, lately in the occupation of The Marple Chemical Company, suitable for horn pith, precipitated phosphate, chemical or artificial manure works; good railway and canal accommodation. Apply for further particulars, "Horn Piths," Chemical Trade Journal Office, Manchester.

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NEW RECIPES, INVENTIONS, & SPECIALITIES in Oils, Greases, Soaps, Paints, Varnishes, Enamels, Blackings, Blues, Polishes, etc., etc., practical working recipes with latest improved English, Continental and American methods, Prize and Gold Medal brands Cheapened Substitutes, Utilization of Wastes and Refuse, etc.; any samples matched. Write for Lists.—Lewis Jameson, Balmoral buildings, 91, Queen Victoria-street, London, E.C., and at 47, College-street, Islington, London, N.

A STEAM FILTER PRESS (Johnson) with 20 22-inch plates—engine, pump and copper air-vessel. Low price.—R. W. Andrews and Co., 24, Grays Inn-road, London, W.C.

DISINTEGRATORS.—A New Machine for £12., second to none, with 18 inch grinding chamber. Also Mortar Mill, 5ft. 6in. pan; for £24. A 10 x 6 New Stone Breaker, for £28.; larger sizes in proportion, or can be had on hire, with option of purchase.—Mason Bros., late S. Mason and Co., Stone Breaking and Grinding Machine Makers, Brandon-street, Leicester.

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PLATINUM Utensils, Scrap, Lamp Ends, etc. Best Prices given by Derby and Co., 44, Clerkenwell Road, London, E.C. N.B.—Platinum Sold.

AMMONIA, all qualities and strengths. Enquiries solicited. BROTHERTON & Co., Birmingham, Leeds, and Wakefield.

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TUBES

IRON and STEEL (butt or lap welded),
and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 8in. diameter.
COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

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Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

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WIRE WEAVER, MACHINE MANUFACTURER, AND GENERAL MILL FURNISHER.
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Liverpool: Exchange Chambers.
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SPECIALITIES:—

SODA ASH 58%	Phosphoric Acid	Castor Oil	Amidol, Metol, Glycin,
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SALTCAKE	Oxalic Acid	Essent. Oils	Photographicals,
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LEIGH URBAN DISTRICT COUNCIL.

THE GAS COMMITTEE of the
LEIGH URBAN DISTRICT COUNCIL invite
TENDERS for the purchase of the Surplus Tar produced
at their Gas Works for a period of one year from the 1st
of September next.

All particulars, with form of Tender, may be had from
the undersigned.

Sealed Tenders endorsed "Tar," and addressed to the
Chairman of the Gas Committee, to be delivered at the
Town Hall, Leigh, on or before Monday, the 12th of
August next.

The highest or any Tender not necessarily accepted.

Gas Works, Leigh,
Lancashire,
July 23rd, 1895.
A. T. FLETCHER,
Engineer and Manager.

Miscellaneous.

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BRADFORD TECHNICAL COLLEGE.

WANTED, a Head Master of the
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next, if possible, and devote the whole of his time to the
duties of the appointment. A Prospectus of the depart-
ment may be had of the undersigned, to whom applications
stating age, experience, qualifications or diplomas, and
salary required, must be sent as soon as possible.
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Secretary.
July 16th, 1895.

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well trained in Chemical Analyses, Soap-making, and
Cotton Dyeing.—Address, "Junior," Chemical Trade
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WANTED, by Single Young Man,

Situation in a Chemical Manufacturer's or Tar
Distiller's Office, the latter preferred. Good experience
and references.—Apply, stating full particulars, to
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Appointment as Chemist in Chemical Manure Works;
had experience both in Laboratory and Works; highest
references.—Address S., Chemical Trade Journal Office,
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particulars to "Pump," Chemical Trade Journal Office,
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TO BE SOLD, the LANCASHIRE MANURE COMPANY'S WORKS at Widnes with Machinery and 24,400 square yards of Freehold Land.—Address J. Hosking, 16, Fenwick Street, Liverpool.

NEW RECIPES, INVENTIONS, & SPECIALITIES in Oils, Greases, Soaps, Paints, Varnishes, Enamels, Blackings, Blues, Polishes, etc., etc., practical working recipes with latest improved English, Continental and American methods, Prize and Gold Medal brands Cheapened Substitutes, Utilization of Wastes and Refuse, etc.; any samples matched. Write for Lists.—Lewis Jameson, Balmoral-buildings, 91, Queen Victoria-street, London, E.C., and at 47, College-street, Islington, London, N.

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**DISINTEGRATOR.**

Each Machine complete with Feeding Hopper and Patent Return Air Chamber.

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For Grinding in ONE OPERATION, from COARSE to the FINEST POWDER (CHANGED AT WILL)

MATERIALS OF THE MOST VARIED DESCRIPTION.

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TUBES

IRON and STEEL (butt or lap welded), and **FITTINGS** for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 8in. diameter. **COILS** for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

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WIRE WEAVING MACHINE MANUFACTURER AND GENERAL MILL FURNISHER. Sole Maker of MILBURN'S Patent Conoidal Stone Grinding Mills. Especially suitable for various materials, Wet or Dry.

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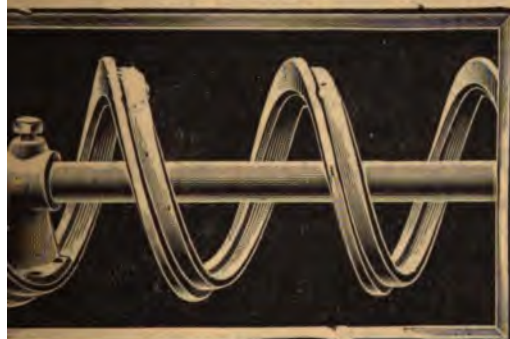
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Tender.

BOROUGH OF WIDNES.

THE Corporation invite Tenders
for the Purchase of from 600 to 700 tons of GAS
TAR from their Gas Works, for the twelve months ending
30th September, 1895.Forms of Tender and Conditions of Contract may be
obtained from Mr. Isaac Carr, A.M.I.C.E., Gas Works,
Widnes.Tenders, endorsed "Tar," to be delivered to the under-
signed not later than the 2nd prox.

The highest or any Tender not necessarily accepted.

H. S. OPPENHEIM,
Town Hall, Widnes, August 20th, 1895. Town Clerk.**Miscellaneous.**Replies to Advertisements addressed to the
"Chemical Trade Journal" Office are forwarded to
Advertisers, post free.AGENT.—A German Earthenware
Works, producing Chemical Specialities, seeks a
capable Agent, who must be acquainted with all the large
Chemical Works of Great Britain and Ireland. Those
living near Glasgow, Liverpool, or Manchester preferred.—
Address N 417, care of Rudolf Mosse, Cassel, Germany.NEW YORK Importing Concern,
Drugs, Chemicals, and Druggists' Sundries, would
represent English Manufacturers of such line for the sale of
their goods in United States and Canada.—Letters to Mr.
A. T. Vogler, 1, Bakehouse Court, St. Paul's, London E.C.WANTED.—First-class Chemist for
Manufacture of Chlorate of Soda by a new pro-
cess, also Chlorate of Potash.—Apply Bowman, Thompson
and Co., Northwich.CHEMIST (26), desires Appointment
in Alkali, Manure, or other Works. Highest
English and Continental Training. Practical experience
in large Continental Control Laboratory. Could introduce
new methods for Phosphate and Nitrogen Determinations.
Good knowledge of German. Highest testimonials.—
Particulars, Jackson, Cooalee, Bacup.CHEMIST, with large experience in
Metals, Alloys, and Disinfectants, is open for Engage-
ment.—Address, S. Joyce, Wellington, Somerset.CHEMICALS.—Young Man is
desirous of taking up Agency for good firm.—
Address T 340, Chemical Trade Journal Office, Man-
chester.GENTLEMAN, with thorough
knowledge of, and lengthened experience in, Artificial
Manure Trade is open to arrange as Manager or Repre-
sentative with Company of standing willing to compete for
business. Well known in Irish Trade; has worked South
of Scotland, and part of North of England. Satisfactory
references as to capability and respectability.—Address
H.K.T., Chemical Trade Journal Office, Manchester.WANTED, by an Experienced
Dyers' Chemist, an Appointment in Works
Laboratory. Advertiser is an A.I.C., and also holds
Diploma of a well-known Science College; aged 26.—
Address "Analyst," Chemical Trade Journal Office,
Manchester.WOOD DISTILLING and the
Manufacture of Acetate of Lead, Soda, Lime, &c.
Situation Required; many years' experience; would not
object going abroad.—Address J.R., Chemical Trade
Journal Office, Manchester.YOUNG CHEMIST, aged 22, desires
Appointment as Chemist in Chemical Manure Works;
had experience both in Laboratory and Works; highest
references.—Address S., Chemical Trade Journal Office,
Manchester.FOR SALE.—Rectangular Glass
Boxes. Will be sold cheap, as sizes are now obsolete
for accumulator work; particulars from Drake and Gorham,
66, Victoria-street, Westminster, London, S.W.WANTED.—Brimstone Sulphuric
Acid, 11°80 S.G., in all parts of the United
Kingdom, for Electrical Accumulators. Quote per gallon
on rail.—Drake and Gorham, 66, Victoria-street, West-
minster, London, S.W.WHO FURNISHES Aniline
Colours, Soluble in Naphtha, Benzine, Sulphide of
Carbon, Methylated Spirit, Acetone or Tetrachloride of
Carbon, but absolutely insoluble in water.—Address
C.M.C., Chemical Trade Journal Office, Manchester.

Miscellaneous.—Cont.

SMALL WORKS in Manchester
District, suitable for making any description of Chemicals. A good opening for young man commencing business. Only a small capital required.—Address W., *Chemical Trade Journal Office*, Manchester.

TO BE LET.—The Aqueduct Works,
Marple, lately in the occupation of The Marple Chemical Company, suitable for horn pith, precipitated phosphate, chemical or artificial manure works; good railway and canal accommodation. Apply for further particulars, "Horn Piths," *Chemical Trade Journal Office*, Manchester.

TO BE SOLD, the LANCASHIRE
MANURE COMPANY'S WORKS at Widnes with Machinery and 24,400 square yards of Freehold Land.—Address J. Hosking, 15, Fenwick Street, Liverpool.

NEW RECIPES, INVENTIONS,
& **SPECIALITIES** in Oils, Greases, Soaps, Paints, Varnishes, Enamels, Blackings, Blues, Polishers, etc., etc., practical working recipes with latest improved English, Continental and American methods, Prize and Gold Medal brands Cheapened Substitutes, Utilization of Wastes and Refuse, etc.; any samples matched. Write for Lists.—Lewis Jameson, Balmoral buildings, 91, Queen Victoria-street, London, E.C., and at 47, College-street, Islington, London, N.

TWO SMALL JOHNSON
FILTER PRESSES; iron plates; good condition; price £8 and £10.—R. W. Andrews and Co., 24, Grays Inn-road, London, W.C.

DISINTEGRATORS.—A New
Machine for £12., second to none, with 18 inch grinding chamber. Also Mortar Mill, 5ft. 6in. pan; for £24. A 10 x 6 New Stone Breaker, for £28.; larger sizes in proportion, or can be had on hire, with option of purchase.—Mason Bros., late S. Mason and Co., Stone Breaking and Grinding Machine Makers, Brandon-street, Leicester.

FOR SALE.—One 3ft. dia. DISIN-
TEGRATOR for grinding bones, chemicals, paints, etc.; One 1ft. dia. Disintegrator for grinding bones, chemicals, paints, etc. One 9 x 5 Blake **STONE-BREAKER**. One Ball MILL for cements, phosphates, etc. A large quantity of Elevator Chains and Buckets at very low prices.—Apply, C. E. Hall, 55, Norfolk-street, Sheffield.

PLATINUM Utensils, Scrap, Lamp
Ends, etc. Best Prices given by Derby and Co., 14, Clerkenwell Road, London, E.C. N.B.—Platinum Sold.

AMMONIA, all qualities and strengths. Enquiries solicited. **BROTHERTON & Co.**, Birmingham, Leeds, and Wakefield.

HARPER'S LIST

OF ACCESSORIES for the TRANSMISSION of POWER, viz.:—BELT PULLEYS, ROPE PULLEYS, GEAR WHEELS, SHAFTING, COUPLINGS, PEDESTALS, FIXINGS; appears on Pages 14 and 15 of the first *Chemical Trade Journal* of each month

PAINT MIXING.

New Book; contains 1,000 practical trade recipes, and instructions for mixing and using paints, oils, colours; thoroughly illustrated with colours and tools; free, 2s.

FRENCH POLISHING, ENAMELLING, STAINING, VARNISHING.

New Book; contains 1,000 practical trade recipes and instructions; beautifully illustrated; free, 2s.

I. TOMLIN, Queen's Road, Barnsley, Yorkshire.

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For SALE.

HERMANN FRANKEN, SCHALKE,
GERMANY.

ABSOLUTELY PURE

SULPHURIC ACID

Guaranteed Free from Ammonia and Nitrogen.

Pure Chemicals. Chemical & Physical Apparatus

PHILIP HARRIS & CO., Ltd., 144 & 146, Edmund Street, BIRMINGHAM

J. STIFF & SONS,

MANUFACTURERS OF

CHEMICAL APPARATUS

IN VITRIFIED STONEWARE.

ACID PANS, ACID PIPES & CONNECTIONS, RECEIVERS, CONDENSING
WORMS, RETORTS, COCKS, JARS, BOTTLES & INSULATORS,
BATTERY JARS, POROUS CELLS, &c., &c.

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SULPHITES AND BISULPHITES OF LIME, SODA,
FOR EXPORT.

S. KEYS & CO. Limited, WEST BROMWICH

BLAYDON MANURE AND ALKALI COMP.'S

PURE WHITE SULPHATE OF ALUMINA
BLANC FIXE, CHLORIDE, NITRATE
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PURE PRECIP. CARBONATE OF BARYTES 90

Also Hydrate and Anhydrous Alumina, Chloride and Carbonate
Alumina, Aluminate of Soda, Hydrate of Barium, &c.

Agents: JULIUS HULSEN & CO., NEWCASTLE-ON-TYNE

TUBES

IRON and STEEL (butt or lap welded),
and FITTINGS for Gas, Water, Steam, Liquid
Ammonia, and Hydraulic Work,
galvanized white enamelled inside, or coated by Dr. Angus
Smith's Composition. In stock to 8in. diameter.
COILS for heating, super-heating, distilling and
refrigerating purposes, to 500 feet long without joints.

JOHN SPENCER,

Globe Tube Works, Wednesbury, and 14, Great St.
Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCORAN

MILLSTONE BUILDING

WIRE WEAVER, MACHINE MAKER

AND GENERAL MILL FURNISHING

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Patent Consolidated Stone Grind

Especially suitable for

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Works and Warehouses

Back Church Lane. *Paris Dept.*: Basane

Corn Exchange.

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CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

SHERDLEY GLASSWORKS, ST. HELENS

Liverpool: Exchange Chambers.
Glasgow: West Campbell-st.

WALKER BROS., ENGINEERS, PAGEFIELD IRONWORKS, WIGAN.

WALKERS' PATENT
AIR COMPRESSING ENGINES.
GAS COMPRESSING ENGINES.
150,000 I.H.P. ALREADY AT WORK.

WALKERS' PATENT
EXHAUST AND BLAST FANS.
RIVER POLLUTION

DYERS, CALICO PRINTERS, AND OTHERS
Can readily PURIFY THEIR WASTE WATERS by the simple and inexpensive
ALUMINO-FERRIC PROCESS.

Full Particulars on application to—
PETER SPENCE & SONS, Manchester Alum Works, MANCHESTER.

R. W. GREEFF & CO.,

3, EASTCHEAP, LONDON, E.C.

IMPORTERS OF
ACETONE. ACETIC ACID & SALTS. ALUMINA
SALTS. ANTIMONY SALTS. BARIUM SALTS.
GLYCERINE. LEAD COMPOUNDS. LIME SALTS.
LITHOPONE. OXALIC ACID & SALTS.
POTASH SALTS. SALICYLIC ACID & SALTS.
SODA SALTS. TIN COMPOUNDS. ZINC COMPOUNDS.

SPECIALITIES
TARTARIC ACID, TARTAR EMETIC, FLUOR/CHROME.

SPECIALITIES:—

SODA ASH 58%	Phosphoric Acid	Castor Oil	Amidol, Metol, Glycin,
POTASHES	Acetates	Olive Oil	Thiocarbamid and other
SALTCAKE	Oxalic Acid	Essent. Oils	Photographicals,
BLEACH	Tartaric Acid	Glucose	Lumieres,
LITHIA SALTS	Salicylic Acid	Grape Sugar	Dry Plates,
BORAX	Carbolic Acid	Cane Syrup	&c., &c.
MERCURIALS	Camphor	Treacle	
SUL. COPPER	Stearine	Nitrate of Silver	
PRUSSIANES	Glycerine	(Pure)	
CYANIDES	OLEINE		
METALS			
MINERALS			
BRIMSTONE			
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IMPORTERS—Commission Merchants—EXPORTERS.
FUERST BROS.
HEADQUARTERS
FOR ALL
HEAVY OR FINE
CHEMICALS,
Pharmaceutical Products,
Photographic Developers,
Drysalteries and Drugs,
Also OILS and PRODUCE.
LONDON: 17, Philpot Lane, E.C. and 2 & 4, Stone Street, NEW YORK.
SAMPLER AND PRICES ON APPLICATION.

Tenders.

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Tenders, endorsed "Tar," to be delivered to the undersigned not later than the 2nd prox.

The highest or any Tender not necessarily accepted.

H. S. OPPENHEIM,
Town Clerk.
Town Hall, Widnes,
August 20th, 1895.

RADCLIFFE AND PILKINGTON GAS COMPANY
TO TAR DISTILLERS.

THE Directors of this Company invite TENDERS for the purchase of 700 tons of the Surplus Tar, to be produced at their Works in Radcliffe during the twelve months commencing 1st day of October next.

Particulars may be obtained from the undersigned, to whom endorsed Tenders must be delivered not later than Tuesday next, the 3rd day of September.

JAMES BRADDOCK,
Manager and Secretary.
Gas Works, Radcliffe,
August 24th, 1895.

Miscellaneous.

Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.

TO MANUFACTURERS' SONS.

Consulting Chemist and Chemical Engineer, of high repute, has a vacancy for a PUPIL or an IMPROVER. Thoroughly practical instruction. Premium required.—Apply "Pupil," Chemical Trade Journal Office, Manchester.

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An old-established firm, large consumers of the above Acids, will be glad to furnish specifications of their requirements to any manufacturers who will furnish their names and addresses, in first instance to "Nitric" care of Messrs. Street and Co., 30, Cornhill, London, E.C.

WANTED, Chemical Plumbers; must be non-unionists.—Apply "Plumber," Chemical Trade Journal Office, Manchester.

WANTED for INDIA—A Practical

SOAP MAKER, English or German, with English experience, understanding the manufacture of Bar, Toilet, Soft, and Milled Soaps. None but thoroughly competent men need apply.—Address, stating age, qualifications, etc., to G.K., care of Crossley, Moir, and Co., 57a, Coleman-street, London, E.C.

CHEMIST (26), desires Appointment

in Alkali, Manure, or other Works. Highest English and Continental Training. Practical experience in large Continental Control Laboratory. Could introduce new methods for Phosphate and Nitrogen Determinations. Good knowledge of German. Highest testimonials. Particulars, Jackson, Cooalee, Bacup.

GENTLEMAN, with thorough

knowledge of, and lengthened experience in, Artificial Manure Trade is open to arrange as Manager or Representative with Company of standing willing to compete for business. Well known in Irish Trade; has worked South of Scotland, and part of North of England. Satisfactory references as to capability and respectability.—Address H.K.T., Chemical Trade Journal Office, Manchester.

VARNISH, ENAMELS, COLOUR,

AND PAINT MAKER.—Situation wanted as above by experienced Young Man, willing to assist in any branch of the trade; wages moderate.—Address "X," Chemical Trade Journal Office, Manchester.

WOOD DISTILLING and the

Manufacture of Acetate of Lead, Soda, Lime, &c. Situation Required; many years' experience; would not object going abroad.—Address J.R., Chemical Trade Journal Office, Manchester.

WHO FURNISHES Aniline

Colours, Soluble in Naphtha, Benzine, Sulphide of Carbon, Methylated Spirit, Acetone or Tetrachloride of Carbon, but absolutely insoluble in water?—Address C.M.C., Chemical Trade Journal Office, Manchester.

CORRESPONDENCE SOLICITED.

Miscellaneous.—Cont.

A CHEMICAL Manufacturer, near London, has space in which he could add the production of some Chemical Specialities, and invites correspondence with any person who can introduce same for production.—Address "Chemical," care of Deacon and Co., 154, Leadenhall-street, London, E.C.

SMALL WORKS in Manchester District, suitable for making any description of Chemicals. A good opening for young man commencing business. Only a small capital required.—Address W., Chemical Trade Journal Office, Manchester.

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TWO SMALL JOHNSON FILTER PRESSES; iron plates; good condition; price £8 and £10.—R. W. Andrews and Co., 24, Grays Inn-road, London, W.C.

FOR SALE.—One 3ft. dia. **DISINTEGRATOR** for grinding bones, chemicals, paints, etc.; One 1ft. dia. Disintegrator for grinding bones, chemicals, paints, etc. One 9 x 5 Blake **STONE-BREAKER**. One Ball MILL for cements, phosphates, etc. A large quantity of Elevator Chains and Buckets at very low prices.—Apply, C. E. Hall, 55, Norfolk-street, Sheffield.

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In any form Purchased for Cash. Highest prices allowed by ROBERT PRINGLE & CO., Gold and Silver Refiners, &c., 45 & 47, Clerkenwell Road, E.C. Send for Price List. Photographic Residues reduced and Purchased.

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Guaranteed Free from Ammonia and Nitrogen.

Pure Chemicals. Chemical & Physical Apparatus.

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J. STIFF & SONS, MANUFACTURERS OF CHEMICAL APPARATUS IN VITRIFIED STONEWARE.

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LAMBETH, LONDON, S.E.



PURE SULPHUROUS ACID, SULPHITES AND BISULPHITES OF LIME, SODA, &c. FOR EXPORT.

S. KEYS & CO. Limited, WEST BROMWICH

"ECLECTIC" (PATENT)



DISINTEGRATOR.

Each Machine complete with Feeding Hopper and Patent Return Air Chamber.

THE PATENT "ECLECTIC" DISINTEGRATOR

For Grinding in ONE OPERATION, from COARSE to the FINEST POWDER (CHANGED AT WILL) MATERIALS OF THE MOST VARIED DESCRIPTION.

The "ECLECTIC" IS ALSO SPECIALLY VALUABLE FOR Chemicals, and Bone Manure, &c., &c.

Our latest Circular (sent on application) gives over 500 capacities in the most varied materials (from A to W).

The Grinding Machinery Co. 16, Mark Lane, London, E.C.

(Working extensively in the United Kingdom and Abroad. Several of our "Eclectic" Disintegrators have been supplied to Her Majesty's Government.)

TUBES

IRON and STEEL (butt or lap welded), and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 10 in. diameter.

COILS for heating, super-heating, distilling and refrigerating purposes, to 300 feet long without joints.

JOHN SPENCER,

Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCORAN MILLSTONE BUILDER.



WIRE WEAVER, MACHINE MANUFACTURER AND GENERAL MILL FURNISHER.

Sole Maker of MILLBURN'S Patent Conoidal Stone Grinding Mills.

Especially suitable for certain materials, Wet or Dry.

Works and Warehouses: Back Church Lane. Parcel Dept.: Basement of Corn Exchange.

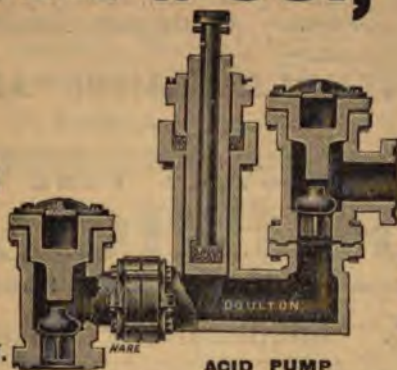
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CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

SHERDLEY GLASSWORKS, ST. HELENS.

Live Foot: R. change Chambers. Glasgow: West Campbell St.

ULTON & CO.,LAMBETH,
LONDON, S.E.STRUCTURERS OF
STONWARE
CHEMICAL
APPARATUS
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PLICATION.

ACID PUMP

**IMPROVED
STONEWARE
ACID PUMPS.**Each Pump prior to
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is put into actual
work and tested.ROOMS: 17, Deansgate, Manchester; 100, Soho St., Liverpool;
Granville St., Birmingham; 6, Rue de Paradis, Paris.**SPENCE'S
LUMP ALUM**

(POTASH or AMMONIA).

Leading Make for nearly Half a Century.

PURE SULPHATE OF ALUMINA and ALUMINO-FERRIC.

SPENCE & SONS, Manchester Alum Works, MANCHESTER.

**CONVEYORS**for **CHEMICALS** and
ALL PURPOSES(Also **ELEVATORS**),**ALL SIZES,**With **Fittings & Troughs, &c.****ALWAYS in STOCK or IN PROGRESS.**(Contractors to H. M. Government.)
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NOZZLES.SILENT
HEATERS.VACUUM
EJECTORS.AIR, &c.
EXHAUSTERS.**IRN & HALL** Chief Office } 63, Royal Exchange, MANCHESTER.**Tender.**

COUNTY BOROUGH OF WIGAN.

TO TAR DISTILLERS AND OTHERS.

THE Gas Committee of the WiganCorporation invite TENDERS for the Surplus Tar
produced at their Gas Works for one year, commencing
on the 1st of September inst., and terminating on the 31st
of August, 1896.Particulars and Forms of Tender may be obtained on
application to the undersigned.The highest or any Tender not necessarily accepted.
Tenders sealed and endorsed "Tar," to be delivered to
J. J. Charnock, Esq., Town Clerk, on or before the 17th inst.Bero' Gas Works,
Wigan, Sept. 3rd, 1895.
JOS. TIMMINS,
Engineer, &c.**Miscellaneous.**Replies to Advertisements addressed to the
"Chemical Trade Journal" Office are forwarded to
Advertisers, post free.**MERCHANT**, known by the greater
part of the Paper Manufacturers in Sweden, wishes
to represent first-class house in Golours and Chemical
Products necessary for fabrication of paper.—Address offers
before the 15th September to "Contraffär," Advertising
Office of S. Gumälius, Stockholm (G 19.445).**WANTED**, Chemical Plumbers;
must be non-unionists.—Apply "Plumber,"
Chemical Trade Journal Office, Manchester.**CHEMIST** (26), desires Appoint-
ment in Alkali, Manure, or other Works. Highest
English and Continental Training. Practical experience
in large Continental Control Laboratory. Could introduce
new methods for Phosphate and Nitrogen Determinations.
Good knowledge of German. Highest testimonials.
Particulars, Jackson, Cocoelee, Bacup.**SULPHURIC** (including R. O. V.),
Nitric and Muriatic Acids, pure and commercial;
Artificial Manures, Animal Charcoal, Tar Distilling.
Advertiser, a trained Technical Chemist, thoroughly
experienced in above manufactures, is open for immediate
engagement as Works Manager.—Address "Manager,"
Chemical Trade Journal Office, Manchester.**WOOD DISTILLING** and the
Manufacture of Acetate of Lead, Soda, Lime, &c.
Situation Required; many years' experience; would not
object going abroad.—Address J.R., Chemical Trade
Journal Office, Manchester.**AIR COMPRESSOR WANTED**,
Second-hand, equal to about 3,000 cubic feet per
hour. Please send particulars to "Compressor," Chemical
Trade Journal Office, Manchester.**IRON DRUMS or CASKS** for Sale,
cheap, second-hand, good condition; fresh painted
red, strong make, iron-hooped each end, hold 25 gallons
each, fitted with brass screws bungs, and screw plug in
head for draw-off tap, 28 in. long, 20 in. diameter.—Apply
R. Hoare, Iron Merchant, Friary, Sutton Wharf, Plymouth.**PRESSES FOR SALE**.—Hydraulic
Press, plate 45 in. by 24 inches, in clear equal new,
first-class condition. Screw Press, iron, heavy gun-metal
nut 3 in. diameter, screw 4 ft. high, 20 in. wide, suitable for
graves, or any kind material.—R. Hoare, Friary, Sutton
Wharf, Plymouth.**REGULAR Supplies of Chloride**
of Zinc required by Incandescent Electric Lamp
Makers. Offers and prices by letter to "X," care of
Advertising Offices, 163, Queen Victoria-street, London, E.C.**WANTED to Purchase**, a Small
Profitable Chemical Business.—Address, stating
full particulars, to H 56, Chemical Trade Journal Office,
Manchester.**SMALL WORKS in Manchester**
District, suitable for making any description of
Chemicals. A good opening for young man commencing
business. Only a small capital required.—Address W.,
Chemical Trade Journal Office, Manchester.**TO BE LET or SOLD**, a Chemical
Works, about 9 miles from Manchester; suitable for
Horn Pith, Precipitated Phosphate, Size, Glue, Charcoal,
or Artificial Manure Works; all necessary plant on the
premises, which is to be sold cheap. Good railway and
canal accommodation. There is also a large house attached
to the works. Apply for further particulars to Davis Bros.,
32, Blackfriars-street, Manchester; or J. and L. Tunstall
and Co., Bewsey Chambers, Warrington.**TO BE SOLD**, the **LANCASHIRE**
MANURE COMPANY'S WORKS at Widnes
with Machinery and 24,400 square yards of Freehold Land.—
Address J. Hosking, 16, Fenwick Street, Liverpool.

Miscellaneous.—Cont.

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**ELEVATORS
AND
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FOR
CHEMICAL
PRODUCTS.**

Factories and Works
equipped with
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Automatic Systems.

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MANGANESE ORES up to 95 % Mn_2O_3 (Oxide), 95 % MnO_2 (Peroxide), and 75 % $MnCO_3$ (Carbonate). **Chrome Ores, Fluorspar, Feldspar, Limespar, Quartz, Silica, and all kindred minerals**, purity guaranteed, supplied by

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Guaranteed Free from Ammonia and Nitrogen.

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**PURE SULPHUROUS ACID
SULPHITES AND BISULPHITES OF LIME, SODA,
FOR EXPORT.**

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**PURE WHITE SULPHATE OF ALUMINA
BLANC FIXE, CHLORIDE, NITRATE
AND SULPHIDE OF BARIUM.**

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HYPO-SULPHITE OF SODA,

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PURE PRECIP. CARBONATE OF BARYTES 90%

Also Hydrate and Anhydrous Alumina, Chloride and Carbonate of Alumina, Aluminate of Soda, Hydrate of Barium, &c.

Agents: JULIUS HULSEN & CO., NEWCASTLE-ON-TYNE

TUBES

IRON and STEEL (butt or lap welded), and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 3in. diameter.

COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

JOHN SPENCER,
Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

**BRYAN CORCORAN
MILLSTONE BUILDING**

**WIRE WEAVER, MACHINE MAKER
AND GENERAL MILL FURNISHING**
Sole Maker of **MILBURN**
Patent Conoidal Stone Grinders

Especially suitable for grinding
materials, Wet or Dry

Works and Warehouses
Back Church Lane. Parcel Dept.: Basement
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CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

SHERDLEY GLASSWORKS, ST. HELENS

Liverpool: Exchange Chambers.
Glasgow: West Campbell-st.

WALKER BROS., ENGINEERS, PAGEFIELD IRONWORKS, WIGAN.

WALKERS' PATENT
AIR COMPRESSING ENGINES.
GAS COMPRESSING ENGINES.
150,000 I.H.P. ALREADY AT WORK.

WALKERS' PATENT
EXHAUST AND BLAST FANS.
RIVER POLLUTION

DYERS, CALICO PRINTERS, AND OTHERS
Can readily PURIFY THEIR WASTE WATERS by the simple and inexpensive
ALUMINO-FERRIC PROCESS.

Full Particulars on application to—

PETER SPENCE & SONS, Manchester Alum Works, MANCHESTER.

R. W. GREEFF & CO.,
3, EASTCHEAP, LONDON, E.C.

IMPORTERS OF
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SALTS. ANTIMONY SALTS. BARIUM SALTS.
GLYCERINE. LEAD COMPOUNDS. LIME SALTS.
LITHOPONE. OXALIC ACID & SALTS.
POTASH SALTS. SALICYLIC ACID & SALTS.
SODA SALTS. TIN COMPOUNDS. ZINC COMPOUNDS.
SPECIALITIES
TARTARIC ACID, TARTAR EMETIC, FLUOR/CHROME.

SPECIALITIES:—

SODA ASH 58%	Phosphoric Acid	Castor Oil	Amidol, Metol, Glycin,
POTASHES	Acetates	Olive Oil	Thiocarbamid and other
SALTCAKE	Oxalic Acid	Essent. Oils	Photographicals,
BLEACH	Tartaric Acid	Glucose	Lumieres,
LITHIA SALTS	Salicylic Acid	Grape Sugar	Dry Plates,
BORAX	Carbolic Acid	Cane Syrup	&c., &c.
MERCURIALS	Camphor	Treacle	
SUL. COPPER	Stearine	Nitrate of Silver	(Pure)
PRUSSIANES	Glycerine		
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CHEMICALS,
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SAMPLER AND PRICES ON APPLICATION.

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Tender.

THE Stretford Gas Company are prepared to receive TENDERS for the Gas Tar and Ammonical Liquor produced at their works (together or separately), for a period of one or two years, commencing November 1st next. Tenders to be sent in, addressed to the Chairman and endorsed "Tender for Tar," on or before Monday, October 7th, 1895.

No special form of Tender is required or supplied. The Directors do not bind themselves to accept the highest or any Tender.

BENJAMIN HAYNES,
Secretary.

Miscellaneous.

Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.

FOR SALE BY PRIVATE TREATY.
Re DAN DAWSON BROS., LTD.

MILNSBRIDGE CHEMICAL WORKS, NEAR
HUDDERSFIELD.

DEAR SIR.—I am instructed by the Committee of Inspection to invite offers for the purchase of the above Works, which are situate at Milnsbridge, near Huddersfield.

The Works comprise:—

SULPHURIC ACID PLANT, consisting of two Lead Chamber of the following dimensions:

1.—100ft. x 20ft. x 17ft. x 16ft.
2.—do. do. do.

Gay Lussac Tower, with cisterns on top; Glover Tower Acid Egg, with four Store Cisterns and Acid Cooler; Air Engine and Steam Boiler, set of Oxide Burners and Potting Furnace, Boiling-down Pan, 24ft. 6in. x 6ft. 6in.; Store Tank, 14ft. x 7ft.; Store Tank, 14ft. x 6ft.

RECTIFIED SULPHURIC ACID PLANT.—This Plant is capable of producing 25 tons of D.O.V. per week. There are four lead-lined Store Tanks, also a complete set of Earthenware Jars as Receivers, with convenient connections for running off the glasses.

COPPERAS PLANT.—This Plant is capable of producing 10 tons per week, and can, with a little outlay, produce 50 tons per week.

NITRIC ACID PLANT.—This Plant is arranged to work four Cylinders. There are four complete sets of Jars, Draught Pipes and Connections, with run-off Tanks and Staging.

NITRO BENZOLE PLANT.—This Plant comprises eight Stills with gearing, and all requisite appliances, i.e., Coolers, Feed Tanks, run-off Tanks, and Mixers.

BI NITRO BENZOLE PLANT.—This Plant comprises six Stills, with all necessary gearing, and is in fair condition.

BOILERS AND ENGINES.—There are two Steam Boilers (one high pressure and one low pressure) in good condition; Horizontal Steam Engine, in thorough working order.

LEASE.—The whole of the Property is held on a lease for a term of 99 years from the 18th day of June, 1877, at the annual ground rent of £54 per annum, and contains an area of 8,724 square yards. There is ample room for extension.

Tank Waggons, Luries, Carts, etc., all in working order, and other loose Plant to be taken at a valuation.

GENERAL ADVANTAGES.—The Works are situate on the side of the Leeds and Liverpool Canal, and are only three minutes' walk from the London and North Western Railway Company's Goods Station. There is every accommodation for discharging and loading.

The whole of the products of the Sulphuric Acid Plant will find a ready sale in the immediate neighbourhood.

For further particulars and permission to view, apply

J. FREEMAN DYSON,
24, Queen-street, Huddersfield, CHARTERED ACCOUNTANT,
or 5A, Commercial-buildings, Receiver and Manager,
Park-row, Leeds.

PATENTS, DESIGNS, AND TRADE MARKS
ACTS, 1883 to 1888.

NOTICE IS HEREBY GIVEN that WILLY BEIN, of 36, Schaper Strasse, Berlin, Prussia, German Empire, has applied for leave to amend the specification filed in pursuance of the Application for Letters Patent No. 21,838 of 1894, for "A New or Improved Process for Electrolysing Chemical Combinations and Winning the Products of Decomposition formed by the Electrolysis."

Particulars of the proposed amendment were set forth in the Illustrated Official Journal (Patents), issued on the 11th September, 1895.

Any person, or persons, may give notice of opposition to the amendment (on Form G) at the Patent Office, 25, Southampton Buildings, London, W.C., within one calendar month from the date of the said Journal.

H. READER-LACK,
Comptroller General.

WANTED, for Scotland, an experienced Works Assistant, thoroughly capable of superintending the manufacture of all kinds of lead compounds; used to the management of men; a knowledge of colour making a recommendation. State salary.—Address "Compounds," Chemical Trade Journal Office, Manchester.

CORRESPONDENCE SOLICITED.

Miscellaneous.—Cont.

TO MANUFACTURERS' SONS:

Consulting Chemist and Chemical Engineer, of high repute, has a vacancy for a PUPIL or an IMPROVER. Thoroughly practical instruction. Premium required.—Apply "Pupil," *Chemical Trade Journal* Office, Manchester.

AN Experienced Works Chemist and Bacteriologist is now disengaged. Good business qualifications. Well up in the management of men and the erection of Plant. Position with view to partnership preferred.—Address "A. H. B.," *Chemical Trade Journal* Office, Manchester.

A YOUNG Foreign CHEMIST, thorough French and German, wishing to perfect his knowledge of English offers himself as Analyst or Chemist in some Chemical or Kindred Works.—F.C., 317, Messrs. DRACON'S, Leadenhall-street, London E.C.

ASSAYER, CHEMIST, and ENGINEER, 30, desires berth in responsible position at home. Is thoroughly experienced in treatment of the precious metals; has held positions as Works Manager, and superintended Erection of Mills, Plant, &c. Practical experience in Distillation of Coal Tar and Manufacture of Chlorates. Conversant with Spanish, French, and Turkish. At present Chief Assistant in Laboratory in North of England.—Address "Englishman," *Chemical Trade Journal* Office, Manchester.

MANAGER of Alkali Works.—Highly Trained Chemist desiring change, seeks Appointment as Manager or Chemist. Experienced in Plant Erection and Experimental Working.—Address "Benham," *Chemical Trade Journal* Office, Manchester.

CAPITAL.—Analytical Chemist desires Partnership in business where knowledge would be useful, or would accept post as Chemist with view to invest. At present assistant to prominent analyst.—Address "Capital," *Chemical Trade Journal* Office, Manchester.

PARTNERSHIP WANTED in any Chemical Manufacturing, Analytical or Assay business, by competent Chemist, with capital up to £2,000.—Address "Chemist," 7, Montague-street, Russell-square, London.

SULPHURIC (including R. O. V.), Nitric and Muriatic Acids, pure and commercial; Artificial Manures, Animal Charcoal Tar Distilling; Advertiser, a trained Technical Chemist, thoroughly experienced in above manufactures, is open for immediate engagement as Works Manager.—Address "Manager," *Chemical Trade Journal* Office, Manchester.

TO CHEMICAL EMPLOYERS.—Wanted a Situation as Foreman, to Superintend the Manufacture of Sulphuric Acid, Salt Cake, Bleach, or Artificial Manure, conjointly or separate. Many years' experience; can be highly recommended.—Address Thomas Phillips, 22, Petri-street, Northwich.

WANTED, a Situation as Chemical Plumber and Lead Burner. Good references given.—Address "Burner," *Chemical Trade Journal* Office, Manchester.

YOUNG MAN, at present in business as an Oil, Disinfectant, and Boiler Fluid Manufacturer, would accept position as MANAGER or any responsible position in a good firm in the same line, with a view to partnership; could introduce a connection, including Tannate of Soda; business man and energetic.—Replies to "Tannate," *Chemical Trade Journal* Office, Manchester.

AIR COMPRESSOR WANTED, Second-hand, equal to about 3,000 cubic feet per hour. Please send particulars to "Compressor," *Chemical Trade Journal* Office, Manchester.

FOR SALE, by Private Treaty, the Business, Laboratory, and Office Fittings of Snelus and Son, Metallurgical and Analytical Chemists, Victoria Mansions, Westminster.—Apply at the Laboratory.

SALT AND CHEMICALS.—20 acres Salt Land in Cheshire; rail and water carriage; Sale or Lease.—Address "Sodium," *Chemical Trade Journal* Office, Manchester.

TO Dyers, Manufacturers, & others—To Let or Sell, the Freehold Premises known as "The North Dean Chemical Works," near Halifax, consisting of about 1,200 yards, together with Steam Boilers and Buildings. There is a plentiful supply of water, and it is conveniently situated for rail and water carriage.—For further particulars apply to H. Whiffen (see and Whitehead), Chartered Accountants, 17, East Parade, Leeds.

ABSOLUTELY PURE

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Guaranteed Free from Ammonia and Nitrogen.

Pure Chemicals. Chemical & Physical Apparatus

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J. STIFF & SONS,

MANUFACTURERS OF

CHEMICAL APPARATUS

IN VITRIFIED STONEWARE.

ACID PANS, ACID PIPES & CONNECTIONS, RECEIVERS, CONDENSING WORMS, RETORTS, COCKS, JARS, BOTTLES & INSULATORS, BATTERY JARS, POROUS CELLS, &c., &c.

LAMBETH, LONDON, S.E.



PURE SULPHUROUS ACID,

SULPHITES AND BISULPHITES OF LIME, SODA,

FOR EXPORT.

S. KEYS & CO. Limited, WEST BROMWICH

"ECLECTIC" (PATENT)



THE PATENT "ECLECTIC" DISINTEGRATOR

For Grinding in ONE OPERATION, from COARSE FINEST POWDER (CHANGED AT WILL)

MATERIALS OF THE MOST VARIED DESCRIPTION

The "ECLECTIC" IS ALSO SPECIALLY VALUABLE FOR Chemicals, and Bone Manure, &c., &c.

Our latest Circular (sent on application) gives over 500 capacities of most varied materials (from A to W).

DISINTEGRATOR.

Each Machine complete with Feeding Hopper and Patent Return Air Chamber.

The Grinding Machinery, 16, Mark Lane, London, E.C.

(Working extensively in the United Kingdom and Abroad) Several of our "Eclectic" Disintegrators have been supplied to Her Majesty's Government.

TUBES

IRON and STEEL (butt or lap welded), and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 3in. diameter.

COILS for heating, super-heating, distilling and refrigerating purposes, to 300 feet long without joints.

JOHN SPENCER,

Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCORAN MILLSTONE BUILDING



WIRE WEAVER, MACHINE MANUFACTURER, AND GENERAL MILL FURNISHING

Sole Maker of MILLSTONE Patent Conoidal Stone Grinders

Especially suitable for materials, Wet or Dry Works and Warehouses

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LONDON, S.E.**SUPPLIERS OF
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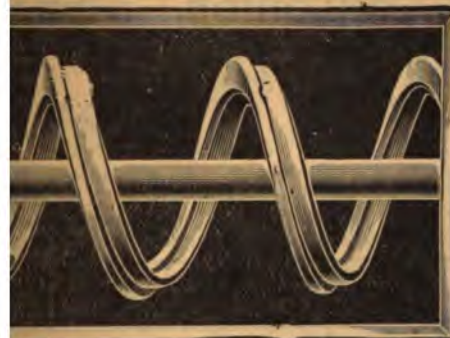
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ACID PUMPS.**Each Pump prior to
leaving the Factory
is put into actual
work and tested.SHOWROOMS: 17, Deansgate, Manchester; 100, Soho St., Liverpool;
Granville St., Birmingham; 6, Rue de Paradis, Paris.**SPENCE'S
PUMP ALUM**

(POTASH or AMMONIA).

Leading Make for nearly Half a Century.

PURE SULPHATE OF ALUMINA and ALUMINO-FERRIC.**SPENCE & SONS, Manchester Alum Works, MANCHESTER.****CONVEYORS**for **CHEMICALS** and
ALL PURPOSES(Also **ELEVATORS**),**ALL SIZES,**

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ALWAYS in STOCK or IN PROGRESS.(Contractors to H. M. Government.)
Telegrams: "CONVEYOR, LONDON."**GENERAL CONVEYOR CO., 16 MARK LANE, London, E.C.****OVER 25,000 ARE WORKING.****HALL'S
EJECTORS****BOILING
NOZZLES.****SILENT
HEATERS.****VACUUM
EJECTORS.****AIR, &c.
EXHAUSTERS.****H. & HALL** Chief Office } **63, Royal Exchange, MANCHESTER.****Tender.****THE Stretford Gas Company** are prepared to receive **TENDERS** for the Gas Tar and Ammoniacal Liquor produced at their works (together or separately), for a period of one or two years, commencing November 1st next. Tenders to be sent in, addressed to the Chairman and endorsed "Tender for Tar," on or before Monday, October 7th, 1895.No special form of Tender is required or supplied.
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Secretary.**Miscellaneous.**

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FOR SALE BY PRIVATE TREATY.
Re **DAN DAWSON BROS., LTD.****MILNSBRIDGE CHEMICAL WORKS, NEAR
HUDDERSFIELD.**

DEAR SIR.—I am instructed by the Committee of Inspection to invite offers for the purchase of the above Works, which are situate at Milnsbridge, near Huddersfield.

The Works comprise:—

SULPHURIC ACID PLANT, consisting of two Lead-lined Chambers of the following dimensions:

- 1.—100ft. x 20ft. x 17ft. x 16ft.
- 2.—do. do.

Gay Lussac Tower, with cisterns on top; **Glover Tower Acid Egg**, with four Store Cisterns and Acid Cooler; **Air Engine and Steam Boiler**, set of Oxide Burners and Potting Furnace, Boiling-down Pan, 24ft. 6in. x 6ft. 6in.; **Store Tank**, 14ft. x 7ft.; **Store Tank**, 14ft. x 6ft.**RECTIFIED SULPHURIC ACID PLANT**.—This Plant is capable of producing 25 tons of D.O.V. per week. There are four lead-lined Store Tanks, also a complete set of Earthenware Jars as Receivers, with convenient connections for running off the glasses.**COPPERAS PLANT**.—This Plant is capable of producing 10 tons per week, and can, with a little outlay, produce 50 tons per week.**NITRIC ACID PLANT**.—This Plant is arranged to work four Cylinders. There are four complete sets of Jars, Draught Pipes and Connections, with run-off Tanks and Staging.**NITRO BENZOLE PLANT**.—This Plant comprises eight Stills, with gearing, and all requisite appliances, i.e., Coolers, Feed Tanks, run-off Tanks, and Mixers.**BI NITRO BENZOLE PLANT**.—This Plant comprises six Stills, with all necessary gearing, and is in fair condition.**BOILERS AND ENGINES**.—There are two Steam Boilers (one high pressure and one low pressure) in good condition; **Horizontal Steam Engine**, in thorough working order.**LEASE**.—The whole of the Property is held on a lease for a term of 99 years from the 18th day of June, 1877, at the annual ground rent of £54 per annum, and contains an area of 8,724 square yards. There is ample room for extension.**Tank Waggon, Luries, Carts**, etc., all in working order, and other loose Plant to be taken at a valuation.**GENERAL ADVANTAGES**.—The Works are situate on the side of the Leeds and Liverpool Canal, and are only three minutes' walk from the London and North Western Railway Company's Goods Station. There is every accommodation for discharging and loading.

The whole of the products of the Sulphuric Acid Plant will find a ready sale in the immediate neighbourhood.

For further particulars and permission to view, apply

J. FREEMAN DYSON,24, Queen-street, CHARTERED ACCOUNTANT,
Huddersfield, Receiver and Manager.
or 5a, Commercial-buildings,
Park-row, Leeds.**WOLVERHAMPTON GAS COMPANY.****SALE OF £15,000 NEW ORDINARY STOCK.**BY ORDER OF THE DIRECTORS, AND PURSUANT
TO "THE WOLVERHAMPTON GAS ACT, 1893."**MR. H. J. LLOYD** will Sell by
Auction, at the Star and Garter Hotel, Wolverhampton, on Wednesday, October 23rd, 1895, at Four o'clock precisely, in Lots of £100 each.**£15,000 NEW ORDINARY STOCK OF THE
WOLVERHAMPTON GAS COMPANY.**

The Standard Dividend authorised by the Wolverhampton Gas Act, 1893, on this stock is 6 per cent. subject to the usual sliding scale clauses. The maximum rates of dividend upon the ordinary and preference capital of the Company have been paid since the incorporation of the Company in 1852. A deposit of 10 per cent. upon the purchase money will be payable at the sale, and the balance on the 31st day of December next, from and after which date the stock will be entitled to dividend.

The sale will be subject to a reserve price, notice of which will be given to the Board of Trade before the day of sale.

For further information application may be made to the SECRETARY of the Company; Messrs. NEVE, CRESSWELL, and SPARROW; and Messrs. MARRY and SON, solicitors, Wolverhampton; or to the AUCTIONEER, Wolverhampton.

Miscellaneous.—Cont.

CAPITAL.—Analytical Chemist desires Partnership in business where knowledge would be useful, or would accept post as Chemist with view to invest. At present assistant to prominent analyst. —Address "Capital," *Chemical Trade Journal* Office, Manchester.

SULPHURIC (including R. O. V.), Nitric and Muriatic Acids, pure and commercial; Artificial Manures, Animal Charcoal, Tar Distilling. Advertiser, a trained Technical Chemist, thoroughly experienced in above manufactures. is open for immediate engagement as Works Manager. —Address "Manager," *Chemical Trade Journal* Office, Manchester.

TO CHEMICAL EMPLOYERS.—Wanted a Situation as Foreman, to Superintend the Manufacture of Sulphuric Acid, Salt Cake, Bleach or Artificial Manure, conjointly or separate. Many years' experience; can be highly recommended. —Address A. B., 22, Petre-street, Northwich.

YOUNG MAN (just completed three years' course at King's College), desires Situation as Assistant Chemist in Works or Analytical Laboratory. Highest references. —Address M., 3, Birdhurst Road, Croydon.

AIR COMPRESSOR WANTED, Second-hand, equal to about 3,000 cubic feet per hour. Please send particulars to "Compressor," *Chemical Trade Journal* Office, Manchester.

TO Dyers, Manufacturers, & others.—To Let or Sell, the Freehold Premises known as "The North Dean Chemical Works," near Halifax, consisting of about 12,000 yards, together with Steam Boilers and Buildings. There is a plentiful supply of water, and it is conveniently situated for rail and water carriage. —For further particulars apply to H. WHITFIELD (Lee and Whitfield), Chartered Accountants, 17, East Parade, Leeds.

WANTED, several Railway Tank Trucks. —Apply, with full particulars and price, to Saffiler and Co., Middlesbrough.

SMALL WORKS in Manchester District, suitable for making any description of Chemicals. A good opening for young man commencing business. Only a small capital required. —Address W., *Chemical Trade Journal* Office, Manchester.

TO BE LET or SOLD, a Chemical Works, about 5 miles from Manchester; suitable for Horn Fish, Precipitated Phosphate, Size, Glue, Chemical, or Artificial Manure Works; all necessary plant on the premises, which is to be sold cheap. Good railway and canal accommodation. There is also a large house attached to the works. Apply for further particulars to Davis Bros., 32, Blackfriars-street, Manchester; or J. and L. Tunstall and Co., Bewsey Chambers, Warrington.

TO BE SOLD, the LANCASHIRE MANURE COMPANY'S WORKS at Widnes with Machinery and 24,400 square yards of Freehold Land. —Address J. Hosking, 16, Fenwick Street, Liverpool.

GLASS CARBOYS.—For Sale, 1,000 Three to five gallon sizes. Cheap. Plain necks, stone stoppers. —R. HOARE The Friary, Plymouth.

NEW RECIPES, INVENTIONS, & SPECIALITIES in Oils, Greases, Soaps, Paints, Varnishes, Enamels, Blackings, Blues, Polishes, etc., etc., practical working recipes with latest improved English, Continental and American methods, Prize and Gold Medal brands. Cheapened Substitutes, Utilization of Wastes and Refuse, etc.; any samples matched. Write for Lists. —Lewis Jameson, Balmoral-buildings, 91, Queen Victoria-street, London, E.C., and at 47, College-street, Islington, London, N.

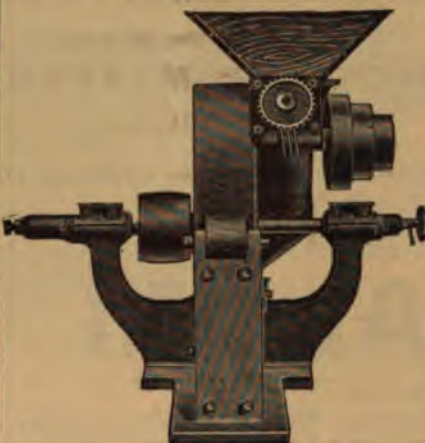
DISINTEGRATORS.—A New Machine for £12., second to none, with 18 inch grinding chamber. Also Mortar Mill, 5ft. 6in. pan; for £28. A 10 x 6 New Stone Breaker, for £28.; larger sizes in proportion, or can be had on hire, with option of purchase. —Mason Bros., late S. Mason and Co., Stone Breaking and Grinding Machine Makers, Brandon-street, Leicester.

FILTER PRESS for Sale. —18 plates, 5ft. 6in. square; pump and pressure gauge; good condition; weighs over 2 tons; price on rail, London, £28. Several smaller Presses. On view at 24, Gray's Inn Road, London, W.C. —Address R. W. Andrews and Co.

MANGANESE ORES up to 95 % Mn_2O_3 (Oxide), 95 % MnO_2 (Peroxide), and 75 % $MnCO_3$ (Carbonate). **Chrome Ores, Fluorspar, Feldspar, Limespar, Quartz, Silica, and all kindred minerals,** purity guaranteed, supplied by **JULIAN PANNENBERG, ARNSTADT, THURINGIA.**

Samples and Analyses on Application.

Peacock's "Manchester" Disintegrator



Will grind and dress any material, animal, vegetable, or mineral. Vibration reduced to a minimum. Twenty years' experience. Grinding, Dressing, and Extrusion Machinery a speciality. Also Maker of Dye Wood, Rasps, Chipping Machines, English Wrought Iron Pulleys, Shafts, Hangers, and Pedestals, &c.

W. H. PEACOCK
Chemical Engineer & Millwright
BRADFORD, MANCHESTER

BLAYDON MANURE AND ALKALI COMP.'S
PURE WHITE SULPHATE OF ALUMINA
BLANC FIXE, CHLORIDE, NITRATE
AND SULPHIDE OF BARIUM.

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BRYAN CORCORAN

MILLSTONE BUILDING
WIRE WEAVER, MACHINE MAKER, AND GENERAL MILL FURNISHING. Sole Maker of MILLBURN Patent Conoidal Stone Crushers. Especially suitable for crushing materials, Wet or Dry. Works and Warehouse, Back Church Lane, Parcel Dept.: BARNUM CORN EXCHANGE. **31, MARK LANE, LONDON.**

CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

SHERDLEY GLASSWORKS, ST. HELENS

Liverpool: Exchange Chambers.
Glasgow: West Campbell-st.

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PURIFY THEIR WASTE WATERS by the simple and inexpensive
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R. W. GREEFF & CO.,

EASTCHEAP, LONDON, E.C.

IMPORTERS OF

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GERINE. LEAD COMPOUNDS. LIME SALTS.
LITHOPONE. OXALIC ACID & SALTS.
OTASH SALTS. SALICYLIC ACID & SALTS.
A SALTS. TIN COMPOUNDS. ZINC COMPOUNDS.
SPECIALITIES
TARIC ACID, TARTAR EMETIC, FLUOR/CHROME.

SPECIALITIES:—

ASH 58%	Phosphoric Acid	Castor Oil	Amidol, Metol, Glycerin,
ASHES	Acetates	Olive Oil	Thiocarbamid and other
CAKE	Oxalic Acid	Essent. Oils	Photographicals,
ACH	Tartaric Acid	Glucose	Lumieres,
HA SALTS	Salicylic Acid	Grape Sugar	Dry Plates,
AX	Carbolic Acid	Cane Syrup	&c., &c.
CURIALS	Camphor	Treacle	
COPPER	Stearine	Nitrate of Silver	
BIATES	Glycerine	(Pure)	
NIDES	OLEINE		
ALS			
ERALS			
STONE			
PHUR			

Telegrams—
FURST, LONDON."

IMPORTERS—Commission Merchants—EXPORTERS.
FURST BROS.
LONDON: 17, Philip Lane, E.C. and 2 & 4, Stone Street, NEW YORK.
HEADQUARTERS
FOR ALL
HEAVY OR FINE
CHEMICALS,
Pharmaceutical Products,
Photographic Developers,
Drysalteries and Drugs,
Also OILS and PRODUCE.
SAMPLES AND PRICES ON APPLICATION.

Tender.

TO MANUFACTURING CHEMISTS.

THE London County Council is prepared to receive TENDERS for the supply and delivery at the Barking and Crossness Outfall Works, of 5,250 tons of PROTO-SULPHATE OF IRON (Commercial Green Vitriol).

Persons desirous to submit Tenders may obtain the Form of Tender and other particulars on application at the Engineer's Department, County Hall, Spring Gardens. Tenders must be upon the official forms, and the printed instructions contained therein must be strictly complied with.

Tenders are to be delivered at the County Hall in a sealed cover, addressed to the Clerk of the London County Council, and marked "Tender for Proto-Sulphate of Iron." No Tender will be received after 10 a.m. on Tuesday, the 15th October, 1895. Any Tender which does not comply with the printed instructions for Tender may be rejected.

The Council does not bind itself to accept the lowest or any Tender, and it will not accept the Tender of any person or firm who shall on any previous occasion have withdrawn a Tender after the same has been opened, unless the reasons for withdrawal were satisfactory to the Council.

H. DE LA HOOKE
Clerk of the Council.

Spring Gardens,
London, S.W.,
9th October, 1895.

Miscellaneous.

Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.

FOR SALE BY PRIVATE TREATY.

Re DAN DAWSON BROS., LTD.

MILNSBRIDGE CHEMICAL WORKS, NEAR
HUDDERSFIELD.

DEAR SIR,—I am instructed by the Committee of Inspection to invite offers for the purchase of the above Works, which are situate at Milnsbridge, near Huddersfield.

The Works comprise:—
SULPHURIC ACID PLANT, consisting of two Leaden Chambers of the following dimensions:

1.—100ft. x 20ft. x 17ft. x 16ft.
2.—do. do. do.

Gay Lussac Tower, with cisterns on top; Glover Tower Acid Egg, with four Store Cisterns and Acid Cooler; Air Engine and Steam Boiler, set of Oxide Burners and Potting Furnace, Boiling-down Pan, 24ft. 6in. x 6ft. 6in.; Store Tank, 14ft. x 7ft.; Store Tank, 14ft. x 6ft.

RECTIFIED SULPHURIC ACID PLANT.—This Plant is capable of producing 25 tons of D.O. V. per week. There are four lead-lined Store Tanks, also a complete set of Earthenware Jars as Receivers, with convenient connections for running off the glasses.

COPPERAS PLANT.—This Plant is capable of producing 10 tons per week, and can, with a little outlay, produce 50 tons per week.

NITRIC ACID PLANT.—This Plant is arranged to work four Cylinders. There are four complete sets of Jars, Draught Pipes and Connections, with run-off Tanks and Saging.

NITRO BENZOLE PLANT.—This Plant comprises eight stills, with gearing, and all requisite appliances, i.e., Coolers, Feed Tanks, run-off Tanks, and Mixers.

StBt NITRO BENZOLE PLANT.—This Plant comprises six Cills, with all necessary gearing, and is in fair condition.

BOILERS AND ENGINES.—There are two Steam Boilers (one high pressure and one low pressure) in good condition; Horizontal Steam Engine, in thorough working order.

LEASE.—The whole of the Property is held on a lease for a term of 999 years from the 18th day of June, 1877, at the annual ground rent of £54 per annum, and contains an area of 8,724 square yards. There is ample room for extension.

Tank Waggon, Luries, Carts etc., all in working order, and other loose Plant to be taken at a valuation.

GENERAL ADVANTAGES.—The Works are situate on the side of the Leeds and Liverpool Canal, and are only three minutes' walk from the London and North Western Railway Company's Goods Station. There is every accommodation for discharging and loading.

The whole of the products of the Sulphuric Acid Plant will find a ready sale in the immediate neighbourhood.

For further particulars and permission to view, apply

J. FREEMAN DYSON,
CHARTERED ACCOUNTANT
Receiver and Manager.

24, Queen-street,
Huddersfield,
or 5a, Commercial-buildings,
Park-row, Leeds.

CORRESPONDENCE SOLICITED.

Miscellaneous.—Cont.

WOLVERHAMPTON GAS COMPANY.
SALE OF £15,000 NEW ORDINARY STOCK.
 BY ORDER OF THE DIRECTORS AND PURSUANT
 TO "THE WOLVERHAMPTON GAS ACT, 1893."

MR. H. J. LLOYD will Sell by
 Auction, at the Star and Garter Hotel, Wolver-
 hampton, on Wednesday, October 23rd, 1895, at Four
 o'clock precisely, in Lots of £100 each,
 £15,000 NEW ORDINARY STOCK OF THE
 WOLVERHAMPTON GAS COMPANY.

The Standard Dividend authorised by the Wolver-
 hampton Gas Act, 1893, on this stock is 6 per cent. subject
 to the usual sliding scale clauses. The maximum rates of
 dividend upon the ordinary and preference capital of the
 Company have been paid since the incorporation of the
 Company in 1852. A deposit of 10 per cent. upon the
 purchase money will be payable at the sale, and the
 balance on the 31st day of December next, from and after
 which date the stock will be entitled to dividend.

The sale will be subject to a reserve price, notice of
 which will be given to the Board of Trade before the day
 of sale.

For further information application may be made to the
 SECRETARY of the Company; Messrs. NEVE, CRESSWELL
 and SPARROW; and Messrs. MANBY and SON, solicitors
 Wolverhampton; or to the AUCTIONEER, Wolverhampton

CARBONATE AMMONIA.—

WANTED, Practical MAN, who thoroughly under-
 stands the manufacture of above article. Good testimonials
 indispensable.—Address X Y 215, Messrs. Deacon's,
 Leadenhall-street, London.

CHLORIDE OF ZINC.—

WANTED, a Really Competent MAN to Take
 Charge of Plant for Making Chloride of Zinc—liquor and
 solid.—Address "Zinc," Chemical Trade Journal Office,
 Manchester.

SULPHURIC (including R. O. V.),

Nitric and Muriatic Acids, pure and commercial;
 Artificial Manures, Animal Charcoal, Tar Distilling.
 Advertiser, a trained Technical Chemist, thoroughly
 experienced in above manufactures, is open for immediate
 engagement as Works Manager.—Address "Manager,"
 Chemical Trade Journal Office, Manchester.

WANTED a Position as Chemist

or Assistant in a Works or Analyst's Laboratory.
 Excellent qualifications; good draughtsman and photo-
 grapher; used to literary work. At present engaged as
 Assistant to a leading Public Analyst.—Address, "LAB.,"
 Chemical Trade Journal Office, Manchester.

WANTED, a Situation as Chemical

Plumber and Lead Burner. Good references
 given.—Address "Burner," Chemical Trade Journal
 Office, Manchester.

YOUNG MAN (just completed three

year's course at King's College), desires Situation as
 Assistant Chemist in Works or Analytical Laboratory.
 Highest references.—Address M., 5, Birdhurst Road,
 Croydon.

BROWN Oil of Vitriol for Sale, free

from Arsenic.—Apply Dan Dawson Bros., Limited,
 Millsbridge Chemical Works, near Huddersfield.

GLASS CARBOYS.—For Sale, 1,000

Three to five gallon sizes. Cheap. Plain necks,
 stout stoppers.—R. HOARE, The Friary, Plymouth

TO Dyers, Manufacturers, & others.—

To Let or Sell, the Freehold Premises known as
 "The North Dean Chemical Works," near Halifax, con-
 sisting of about 12,000 yards, together with Steam Boilers
 and Buildings. There is a plentiful supply of water, and
 it is conveniently situated for rail and water carriage.—For
 further particulars apply to H. WHITFIELD (Lee and
 Whitfield), Chartered Accountants, 17, East Parade, Leeds.

TO BE SOLD.—Two Railway Tank

Trucks, suitable for Sulphuric Acid. Are in good
 condition.—Apply to "Acid," 1, Bow Common Lane,
 London, E.

WANTED, several Railway Tank

Trucks.—Apply, with full particulars and price, to
 Sadder and Co., Middlesbrough.

SMALL WORKS in Manchester

District, suitable for making any description of
 Chemicals. A good opening for young man commencing
 business. Only a small capital required.—Address W.,
 Chemical Trade Journal Office, Manchester.

ABSOLUTELY PURE

SULPHURIC ACID

Guaranteed Free from Ammonia and Nitrogen.

Pure Chemicals. Chemical & Physical Apparatus

PHILIP HARRIS & CO., Ltd., 144 & 146, Edmund Street, BIRMINGHAM

J. STIFF & SONS,

MANUFACTURERS OF

CHEMICAL APPARATUS

IN VITRIFIED STONEWARE.

ACID PANS, ACID PIPES & CONNECTIONS, RECEIVERS, CONDENSING
 WORMS, RETORTS, COCKS, JARS, BOTTLES & INSULATORS,
 BATTERY JARS, POROUS CELLS, &c., &c.**LAMBETH, LONDON, S.E.****MANGANESE ORES** up to95 % Mn₂O₃ (Oxide), 95 % MnO₂ (Peroxide), and 75 % MnCO₃ (Carbonate)
Chrome Ores, Fluorspar, Feldspar, Limespar, Quartz,
Silex, and all kindred minerals, purity guaranteed, supplied by**JULIAN PANNENBERG, ARNSTADT, THURINGIA**

Samples and Analyses on Application.

Manlove, Alliott & Co. Ltd.,

ENGINEERS,

NOTTINGHAM.See Advertisement in first issue of
 this month.**HENRY ROBINSON,**

Maker of Improved Shape Iron Hampers,

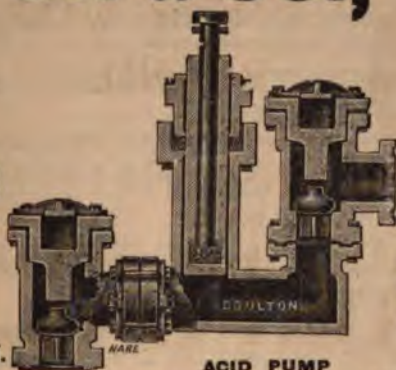
Registered No. 50,061.

BRADFORD, MANCHESTER.**SULPHURIC ACID.****JOHN NICHOLSON & SONS**LTD., Chemical Works, LEEDS, specialise
 this ACID from BRIMSTONE, for making SULPHATE
 OF AMMONIA of high quality and good colour
 in our own Railway Tank-Wagons or Carboys.
 references and all particulars supplied on application**HARPER'S LIST**OF ACCESSORIES for the TRANSMISSION
 POWER, viz.:—BELT PULLEYS, ROPE
 GEAR WHEELS, SHAFTING, COU-
 PEDESTALS FIXINGS; appears on Page
 15 of the first Chemical Trade Journal of each**TUBES****IRON and STEEL (butt or lap welded),**
and FITTINGS for Gas, Water, Steam, Liquid
 Ammonia, and Hydraulic Work,
 galvanized white enamelled inside, or coated by Dr. Angus
 Smith's Composition. In stock to 8 in. diameter.**COILS** for heating, super-heating, distilling and
 refrigerating purposes, to 500 feet long without joints.**JOHN SPENCER,**Globe Tube Works, Wednesbury, and 14, Grant St.
 Thomas Apostle, Cannon-st., London, E.C.**BRYAN CORCORAN****MILLSTONE BUILDING**WIRE WEAVER, MACHINE MAKER
 AND GENERAL MILL FURNISHING
 Sole Maker of MILLBURN
 Patent Conoidal Stone GrindEspecially suitable for
 materials, Wet or DryWorks and Warehouses
 Back Church Lane, Parcel Dept., Basins
 Corn Exchange**31, MARK LANE, LONDON****CANNINGTON, SHAW & CO., LIMITED.****CARBOYS.****SHERDLEY GLASSWORKS, ST. HELENS**Liverpool: Exchange Chambers.
 Glasgow: West Campbell-st.

MULTON & CO., LAMBETH, LONDON, S.E.

FACTURERS OF
NEWARE
CHEMICAL
APPARATUS
OF
DESCRIPTION.

DE LISTS
PLICATION.



ACID PUMP

IMPROVED STONEWARE ACID PUMPS.

Each Pump prior to
leaving the Factory
is put into actual
work and tested.

ROOMS: 17, Deansgate, Manchester; 100, Soho St., Liverpool;
Granville St., Birmingham; 6, Rue de Paradis, Paris.

SPENCE'S LUMP ALUM

(POTASH or AMMONIA).

Leading Make for nearly Half a Century.

PURE SULPHATE OF ALUMINA and ALUMINO-FERRIC.

SPENCE & SONS, Manchester Alum Works, MANCHESTER.



CONVEYORS

for CHEMICALS and
ALL PURPOSES
(Also ELEVATORS),
ALL SIZES,

With Fittings & Troughs, &c.

ALWAYS in STOCK or IN PROGRESS.

(Contractors to H. M. Government.)
Telegrams: "CONVEYOR, LONDON."

PIRAL CONVEYOR CO., 16 MARK LANE, London, E.C.

OVER 25,000 ARE WORKING.



BOILING
NOZZLES.

SILENT
HEATERS.

VACUUM
EJECTORS.

AIR, &c.
EXHAUSTERS.

URN & HALL Chief Office } 63, Royal Exchange, MANCHESTER.

Tender.

CITY OF MANCHESTER.

ARTIFICIAL OXIDE OF IRON.

THE Gas Committee are prepared to receive TENDERS for the supply and delivery of about 1,400 Tons of ARTIFICIAL OXIDE at their Gaythorn, Rochdale Road, and Bradford Road Works during the ensuing Twelve Months (Moisture not to exceed 35 per cent.).

Sealed Tenders, endorsed "Tender for Oxide," and addressed to the Chairman of the Committee, to be delivered not later than Thursday, the 24th of October.

By order,
WM. HENRY TALBOT,
Town Clerk.

Town Hall, Manchester;
Oct. 10th, 1895.

Miscellaneous.

Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.

CHLORIDE OF ZINC.—WANTED, a Really Competent MAN to Take Charge of Plant for Making Chloride of Zinc—liquor and solid.—Address "Zinc," Chemical Trade Journal Office, Manchester.

WANTED, an Energetic Traveller for a small Chemical Company.—Apply, stating age, experience, and salary required, to X Y Z, Chemical Trade Journal Office, Manchester.

WANTED, in an Old Established Chemical Manure Manufacturing Business, an Energetic Working Partner, with about £4,000. capital.—Address "Super," Chemical Trade Journal Office, Manchester.

SULPHURIC (including R. O. V.), Nitric and Muriatic Acids, pure and commercial; Artificial Manures, Animal Charcoal, Tar Distilling. Advertiser, a trained Technical Chemist, thoroughly experienced in above manufactures, is open for immediate engagement as Works Manager.—Address "Manager," Chemical Trade Journal Office, Manchester.

YOUNG German Gentleman, Analytical Chemist, just finished Studies, Dr. Philosophy University Erlangen, Bavaria, requires a Situation in Manufactory.—Address H. Munker, Dr. Webb, Basingstoke, Hants.

BROWN Oil of Vitriol for Sale, free from Arsenic.—Apply Dan Dawson Bros., Limited, Milnsbridge Chemical Works, near Huddersfield.

GLASS CARBOYS.—For Sale, 1,000 Three to five gallon sizes. Cheap. Plain necks, stone stoppers.—R. HOARE, The Friary, Plymouth.

LIQUID FUEL.—Wanted, the best make of Burners, particulars and price.—Address "Fuel," Chemical Trade Journal Office, Manchester.

STONE-WARE MIXING JAR, by Bailey. Capacity, about 100 gallons; cover and tap; sound; £5. F. O. R.—C. Lunn and Co., Kirkburton, Huddersfield.

TO Dyers, Manufacturers, & others.—To Let or Sell, the Freehold Premises known as "The North Dean Chemical Works," near Halifax, consisting of about 12,000 yards, together with Steam Boilers and Buildings. There is a plentiful supply of water, and it is conveniently situated for rail and water carriage.—For further particulars apply to H. WHITFIELD (Lee and Whitfield), Chartered Accountants, 17, East Parade, Leeds.

SMALL WORKS in Manchester District, suitable for making any description of Chemicals. A good opening for young man commencing business. Only a small capital required.—Address W., Chemical Trade Journal Office, Manchester.

TO BE LET or SOLD, a Chemical Works, about 9 miles from Manchester; suitable for Horn Pith, Precipitated Phosphate, Size, Glue, Chemical, or Artificial Manure Works; all necessary plant on the premises, which is to be sold cheap. Good railway and canal accommodation. There is also a large house attached to the works. Apply for further particulars to Davis Bros., 32, Blackfriars-street, Manchester; or J. and L. Tuxford and Co., Bewsey Chambers, Warrington.

Miscellaneous.—Cont.

TO BE SOLD, the LANCASHIRE MANURE COMPANY'S WORKS at Widnes with Machinery and 24,420 square yards of Freehold Land.—Address J. Hosking, 16, Fenwick Street, Liverpool.

NEW RECIPES, INVENTIONS, & SPECIALITIES in Oils, Greases, Soaps, Paints, Varnishes, Enamels, Blackings, Blues, Polishes, etc., etc., practical working recipes with latest improved English, Continental and American methods, Prize and Gold Medal brands, Cheapened Substitutes, Utilization of Wastes and Refuse, etc.; any samples matched. Write for Lists.—Lewis Jameson, Balmoral-buildings, 91, Queen Victoria-street, London, E.C., and at 47, College-street, Islington, London, N.

FILTER PRESS for Sale.—18 plates, 8ft. 6in. square; pump and pressure gauge; good condition; weighs over 2 tons; price on rail, London, £28. Several smaller Presses. On view at 24, Gray's Inn Road, London, W.C.—Address R. W. Andrews and Co

DISINTEGRATORS.—A New Machine for £12., second to none, with 18 inch grinding chamber. Also Mortar Mill, 8ft. 6in. pan; for £28. A 10 x 6 New Stone Breaker, for £28.; larger sizes in proportion, or can be had on hire, with option of purchase.—Mason Bros., late S. Mason and Co., Stone Breaking and Grinding Machine Makers, Brandon-street, Leicester.

FOR SALE.—One 3ft. dia. **DISINTEGRATOR** for grinding bones, chemicals, paints, etc.; One 8ft. dia. Disintegrator for grinding bones, chemicals, paints, etc. One 9 x 5 Blake **STONE-BREAKER**. One Ball MILL for cements, phosphates, etc. A large quantity of Elevator Chains and Buckets at very low prices.—Apply, C. E. Hall, 55, Norfolk-street, Sheffield.

PLATINUM Utensils, Scrap, Lamp Ends, etc. Best Prices given by Derby and Co., 44, Clerkenwell Road, London, E.C. N.B.—Platinum Sold.

AMMONIA, all qualities and strengths. Enquiries solicited. **BROTHERTON & Co.**, Birmingham, Leeds, and Wakefield.

Every
Employer,
Manager,
and
Engineer
should
see
our

AUTOMATIC

**NON-TRITURATING
COAL & COKE
CONVEYOR.**

LABOUR

NEW CONVEYOR COY., LD.,
3 & 4, LIME ST. SQUARE,
LONDON, E.C.

MANGANESE ORES up to 95 % Mn_2O_3 (Oxide), 95 % MnO_2 (Peroxide), and 75 % $MnCO_3$ (Carbonate). **Chrome Ores, Fluorspar, Feldspar, Limespar, Quartz, Silica, and all kindred minerals**, purity guaranteed, supplied by **JULIAN PANNENBERG, ARNSTADT, THURINGIA**.

Samples and Analyses on Application.

J. STIFF & SONS,
MANUFACTURERS OF
CHEMICAL APPARATUS
IN VITRIFIED STONEWARE.

ACID PANS, ACID PIPES & CONNECTIONS, RECEIVERS, CONDENSING WORMS, RETORTS, COCKS, JARS, BOTTLES & INSULATORS, BATTERY JARS, POROUS CELLS, &c., &c.

LAMBETH, LONDON, S.E.



**ABSOLUTELY PURE
SULPHURIC ACID**

Guaranteed Free from Ammonia and Nitrogen.

Pure Chemicals. Chemical & Physical Apparatus.
PHILIP HARRIS & CO., Ltd., 144 & 146, Edmund Street, BIRMINGHAM.

**BLAYDON MANURE AND ALKALI COMP.'S
PURE WHITE SULPHATE OF ALUMINA
BLANC FIXE, CHLORIDE, NITRATE
AND SULPHIDE OF BARIUM.**

UNITED ALKALI COMP.'S

**HYPO-SULPHITE OF SODA,
WALTHER FELD & CO.'S**

PURE PRECIP. CARBONATE OF BARYTES 99%
Also Hydrate and Anhydrous Alumina, Chloride and Carbonate of Alumina, Aluminate of Soda, Hydrate of Barium, &c.

Agents: JULIUS HULSEN & CO., NEWCASTLE-ON-TYNE.

TUBES
IRON and STEEL (butt or lap welded), and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanised white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 3in. diameter.
COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.
JOHN SPENCER,
Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCORAN
MILLSTONE BUILDING
WIRE WEAVER, MACHINE MAKER
AND GENERAL MILL FURNISHING
Sole Maker of MILLAR'S
Patent Consolidated Stone Crushers
Especially suitable for
materials, Wet or
Dry
Works and Warehouses
Back Church Lane. Parcel Dept.: Basins
Corn Exchange
31, MARK LANE, LONDON.



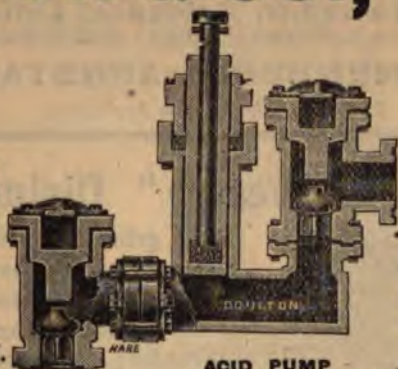
CANNINGTON, SHAW & CO., LIMITED

CARBOYS
SHERDLEY GLASSWORKS, ST. HELENS

Liverpool: Exchange Chambers.
Glasgow: West Campbell-st.

MULTON & CO.,**LAMBETH,
LONDON, S.E.**

FACTURERS OF
STONWARE
CHEMICAL
APPARATUS
OF
DESCRIPTION.



**IMPROVED
STONEWARE
ACID PUMPS.**

Each Pump prior to
leaving the Factory
is put into actual
work and tested.

ROOMS: 17, Deansgate, Manchester; 100, Soho St., Liverpool;
Granville St., Birmingham; 6, Rue de Paradis, Paris.

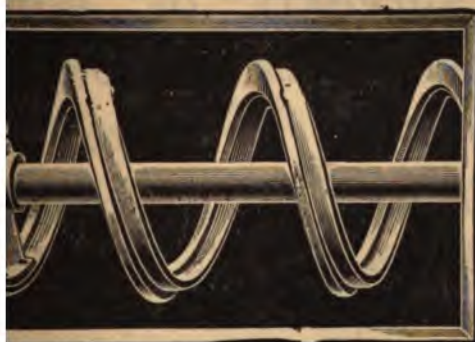
**SPENCE'S
ALUM**

(POTASH or AMMONIA).

Leading Make for nearly Half a Century.

PURE SULPHATE OF ALUMINA and ALUMINO-FERRIC.

SPENCE & SONS, Manchester Alum Works, MANCHESTER.



CONVEYORS

for **CHEMICALS** and
ALL PURPOSES

(Also **ELEVATORS**),**ALL SIZES,**With **Fittings & Troughs, &c.****ALWAYS in STOCK or IN PROGRESS.**(Contractors to H. M. Government.)
Telegrams: "CONVEYOR, LONDON."

GENERAL CONVEYOR CO., 16 MARK LANE, London, E.C.

OVER 25,000 ARE WORKING.

**BOILING
NOZZLES.****SILENT
HEATERS.****VACUUM
EJECTORS.****AIR, &c.
EXHAUSTERS.**

IRN & HALL Chief Office } **63, Royal Exchange, MANCHESTER.**

Tenders.

**ALLIANCE AND DUBLIN CONSUMERS GAS
COMPANY, D'OLIER STREET.**

SPENT OXIDE.

THE Directors of the above Company
are prepared to receive **TENDERS** for the purchase of the **SPENT OXIDE OF IRON** produced on the Company's Works; the quantity being about 900 tons per annum. The contract to be for three or five years.

Specifications, giving particulars of sale, and the nature of the proposed contract, can be had on application to the undersigned, at the Company's Offices, D'Olier-street.

Tenders to be lodged at the Company's Offices on or before Tuesday, November the 5th.

The Directors do not bind themselves to accept the highest or any Tender.

Offices: D'Olier-street, Dublin.
W. F. COTTON,
Secretary and Manager.

**ALLIANCE AND DUBLIN CONSUMERS' GAS
COMPANY.
SULPHURIC ACID.**

THE Directors of the above Company
are prepared to receive **TENDERS** for the supply of **SULPHURIC ACID** for a period of three or five years, to be delivered as required at the Company's Sulphate Works, Dublin, the quantity being about 800 tons per annum. The Sulphuric Acid to be made from Spent Oxide, and to be of specific gravity 1.750.

Tenders to be lodged at the Company's Offices on or before Tuesday, November the 5th.

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Offices: D'Olier-street, Dublin.
W. F. COTTON,
Secretary and Manager.

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CHLORIDE OF ZINC.—

WANTED, a Really Competent MAN to Take Charge of Plant for Making Chloride of Zinc—liquor and solid.—Address "Zinc," Chemical Trade Journal Office, Manchester.

ADVERTISER wants Situation as

Analyst or Foreman in Coal Tar Distillery or Naphtha Refinery, or would take Management of Small Works; 16 years' experience.—Address "Ozone," Chemical Trade Journal Office, Manchester.

WANTED, a Situation as Sal-

Ammonia Maker; several years' experience in a large Chemical Works.—Address G. Backhouse, 16, Lower Craven-street, Salford. Manchester.

WANTED, Situation as Manager,

Assistant Manager, or Chemist, by Young Man experienced Works Chemist; has Managed Works; good character; moderate salary; disengaged; Fellow Institute of Chemistry; well up in Manures, Acids, Paints, Colors, and Explosives.—J. J., Chemical Trade Journal Office, Manchester.

WANTED, Situation as Improver

to Chemical Plumbing; 4 years' experience.—Apply A. W. Z., Chemical Trade Journal Office, Manchester.

GLASS CARBOYS.—For Sale, 1,000

Three to five gallon sizes. Cheap. Plain necks, stone stoppers.—R. HOARE The Friary, Plymouth.

TO Dyers, Manufacturers, & others.—

To Let or Sell, the Freehold Premises known as "The North Dean Chemical Works," near Halifax, consisting of about 12,000 yards, together with Steam Boilers and Buildings. There is a plentiful supply of water, and it is conveniently situated for rail and water carriage.—For further particulars apply to H. WHITFIELD (Lee and Whitfield), Chartered Accountants, 17, East Parade, Leeds.

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Works, about 9 miles from Manchester; suitable for Horn Pith, Precipitated Phosphate, Size, Glue, Chemical, or Artificial Manure Works; all necessary plant on the premises, which is to be sold cheap. Good railway and canal accommodation. There is also a large house attached to the works. Apply for further particulars to Davis Bros., 32, Blackfriars-street, Manchester; or J. and L. Tunstall and Co., Bewsey Chambers, Warrington.

Miscellaneous.—Cont.

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NEW RECIPES, INVENTIONS, & SPECIALITIES in Oils, Greases, Soaps, Paints, Varnishes, Enamels, Blackings, Blues, Polishes, etc., etc., practical working recipes with latest improved English, Continental and American methods, Prize and Gold Medal brands, Cheapened Substitutes, Utilization of Wastes and Refuse, etc.; any samples matched. Write for Lists.—Lewis Jameson, Balmoral buildings, 91, Queen Victoria-street, London, E.C., and at 47, College-street, Islington, London, N.

FILTER PRESS for Sale.—18 plates, 2ft. 6in. square; pump and pressure gauge; good condition; weighs over 2 tons. Several smaller Presses. On view at 21, Gray's Inn Road, London, W.C.—Address R. W. Andrews and Co.

DISINTEGRATORS.—A New Machine for £12., second to none, with 18 inch grinding chamber. Also Mortar Mill, 5ft. 6in. pan; for £28. A 10 x 6 New Stone Breaker, for £28.; larger sizes in proportion, or can be had on hire, with option of purchase. Mason Bros., late S. Mason and Co., Stone Breaking and Grinding Machine Makers, Brandon-street, Leicester.

FOR SALE.—One 3ft. dia. DISINTEGRATOR for grinding bones, chemicals, paints, etc.; One 1ft. dia. Disintegrator for grinding bones, chemicals, paints, etc. One 9 x 5 Blake **STONE-BREAKER**. One Ball **MILL** for cements, phosphates, etc. A large quantity of Elevator Chains and Buckets at very low prices.—Apply, C. E. Hall, 55, Norfolk-street, Sheffield.

PLATINUM Utensils, Scrap, Lamp Ends, etc. Best Prices given by Derby and Co., 44, Clerkenwell Road, London, E.C. N.B.—Platinum Sold.

AMMONIA, all qualities and strengths. Enquiries solicited. BROTHERTON & Co., Birmingham, Leeds, and Wakefield.

HARPER'S LIST

OF ACCESSORIES for the TRANSMISSION of POWER, viz.:—BELT PULLEYS, ROPE PULLEYS, GEAR WHEELS, SHAFTING, COUPLINGS, PEDESTALS, FIXINGS; appears on Pages 14 and 15 of the first *Chemical Trade Journal* of each month

FULLER'S BONE STEAMER.

Softens the Bones without extracting any of the Nitrogenous Substance.



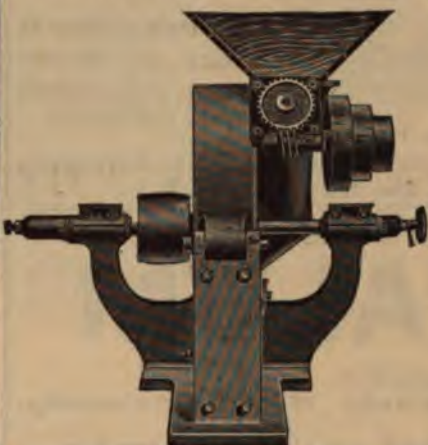
Extraction of the Grease within an hour.

ESTIMATES FOR COMPLETE BONE STEAMING AND GRINDING PLANT. GRINDING MACHINERY FOR EVERY DESCRIPTION OF MATERIAL.

W. M. FULLER, Jun., 35, Great Charles Street, Birmingham

MANGANESE ORES up to 95 % Mn_2O_3 (Oxide), 95 % MnO_2 (Peroxide), and 75 % $MnCO_3$ (Carbonate). **Chrome Ores, Fluorspar, Feldspar, Limespar, Quartz, Silica, and all kindred minerals**, purity guaranteed, supplied by **JULIAN PANNENBERG, ARNSTADT, TH**

Samples and Analyses on Application.

Peacock's "Manchester" Disintegrator

Will grind and dress any mineral, animal, vegetable, or mineral. Vibration reduced to a minimum. Twenty years' experience in Grinding, Dressing, and Extruding Machinery a speciality. Also Maker of Dye Wood, Rasps, Chipping Machines, English Wrought Iron Pulleys, Scales, Hangers and Pedestals, &c.

W. H. PEACOCK Chemical Engineer & Millwright **BRADFORD, MANCHESTER**

BLAYDON MANURE AND ALKALI COMP.'S PURE WHITE SULPHATE OF ALUMINA, BLANC FIXE, CHLORIDE, NITRATE AND SULPHIDE OF BARIUM.

UNITED ALKALI COMP.'S

HYPO-SULPHITE OF SODA,

WALTHER FELD & CO.'S

PURE PRECIP. CARBONATE OF BARYTES 90%

Also Hydrate and Anhydrous Alumina, Chloride and Carbonate of Alumina, Aluminate of Soda, Hydrate of Barium, &c.

Agents: **JULIUS HULSEN & CO., NEWCASTLE-ON-TYNE**

TUBES

IRON and STEEL (butt or lap welded), and **FITTINGS** for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 3in. diameter. **COILS** for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

JOHN SPENCER, Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCORAN MILLSTONE BUILDING

WIRE WEAVER, MACHINE MAKER AND GENERAL MILL FURNISHING. Sole Maker of MILLSTONE Patent Conoidal Stone Grinders. Especially suitable for materials, Wet or Dry. Works and Warehouse, Back Church Lane. Parcel Dept.: BANGOR, CORN EXCHANGE.

31, MARK LANE, LONDON

CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

SHERDLEY GLASSWORKS, ST. HELENS

Liverpool: Exchange Chambers. Glasgow: West Campbell-st.

DULTON & CO.,

LAMBETH,
LONDON, S.E.

MANUFACTURERS OF
STONEWARE
CHEMICAL
APPARATUS
OF
DESCRIPTION.



IMPROVED
STONEWARE
ACID PUMPS.

Each Pump prior to
leaving the Factory
is put into actual
work and tested.

PRICE LISTS
ON APPLICATION.

WORKROOMS: 17, Deansgate, Manchester; 100, Soho St., Liverpool
Granville St., Birmingham; 6, Rue de Paradis, Paris.

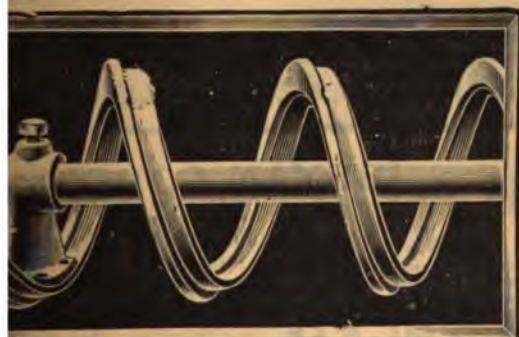
SPENCE'S LUMP ALUM

(POTASH or AMMONIA).

Leading Make for nearly Half a Century.

SO PURE SULPHATE OF ALUMINA and ALUMINO-FERRIC.

BY SPENCE & SONS, Manchester Alum Works, MANCHESTER.



CONVEYORS

for CHEMICALS and
ALL PURPOSES

(Also ELEVATORS),
ALL SIZES,

With Fittings & Troughs, &c.

ALWAYS in STOCK or IN PROGRESS.

(Contractors to H. M. Government.)
Telegrams: "CONVEYOR, LONDON."

SPIRAL CONVEYOR CO., 16 MARK LANE, London, E.C.

ABSOLUTELY PURE

SULPHURIC ACID

Guaranteed Free from Ammonia and Nitrogen.

Chemicals. Chemical & Physical Apparatus.

P HARRIS & CO., Ltd., 144 & 146, Edmund Street, BIRMINGHAM.

Tender.

G. KYNOCH & COMPANY, LTD.,
invite TENDERS for the supply of the under-
mentioned materials for a term of six or twelve months,
from the 1st day of January, 1896.

1. TIMBER:—Spruce, Red Deal, Elm, M'bds,
Hard Sawdust, etc.
2. GENERAL STORES & DRYSALTERY:—
Ropes, Twines, Oils, I.R. Goods, Hemp
and Asbestos Packing, Paints, Brushes,
Methy: Finish, Soaps, Wax, Coke Scuttles,
Nails, Wood Screws, Lead Shot, Leather
Goods, Crucibles, Glue, Spades, Riddles, etc.
3. ENGINEERS' STORES:—Bolts and Nuts,
Tubes, Valves, Files, Name Punches, Hand
Tools, Emery Wheels, Mill Gearing, Grind-
stones, etc.
4. SOFT GOODS:—Linsey, Serge, Baize, Wad-
ding Felts, Fents, Calico, Silesia, Jean,
Cotton Waste, Sponge Cloths, Packing
Bags, etc.
5. IRON, STEEL, AND OTHER METAL
WARE:—Black Sheets, Tinplates, Bar
Iron, Steel Strip, Annealing Pans, Gal-
vanized Buckets, Tinfoil, Iron, Steel, and
G.M. Castings; Sweedish Iron and Steel,
Tungsten, Ferro-Mn. Ferro-Sil; Spiege-
leisen, Aluminium, etc.
6. GENERAL AND FURNACE BUILDING
MATERIALS:—Red and Fire-clay Bricks,
Lime, Slates, Cement, Gannister, China
Clay, etc.
7. PAPERS AND OFFICE SUNDRIES:—
Browns, Coloured, Tissues, Printings, Inks,
Pens and Pencils, etc.
8. SHOEING AND HORSE FODDER and
Flour for Paste.
9. CHEMICALS:—Aquaforis, O. V. Potash,
Salt, Ground Antimony, Borax, Barytes,
Soda, Chalk, Pumice, Disinfectants, Char-
coal, etc.

All information, with forms of Tender may be obtained,
and samples may be viewed on application.

The Company do not pledge themselves to accept the
lowest or any Tender.

Tenders (which must be made on the form supplied) to
be addressed to the DIRECTORS OF G. KYNOCH &
CO., LTD., LION WORKS, WITTON, BIRMING-
HAM, marked "TENDER," and must be sent so as to
be delivered not later than the 16th December.

By order of the Board,

Lion Works,
Witton,
Birmingham,
November 28th, 1895.
FRANK HUXHAM,
Secretary.

Miscellaneous.

Replies to Advertisements addressed to the
"Chemical Trade Journal" Office are forwarded to
Advertisers, post free.

1895. T No. 0121

IN THE HIGH COURT OF JUSTICE
CHANCERY DIVISION
Mr. JUSTICE CHITTY

IN THE MATTER OF Tigars Manure Company
Limited and Reduced

and
IN THE MATTER OF the Companies Act 1867
and

IN THE MATTER OF the Companies Act 1877

NOTICE is Hereby Given that a Petition presented to
the High Court of Justice Chancery Division on the 13th
day of November 1895 for confirming a special resolution
reducing the capital of the above-named Company from
£16300 to £15000 is directed to be heard before his Lord-
ship Mr. Justice Chitty on Saturday the 14th day of
December 1895. Any creditor or shareholder of the Com-
pany desiring to oppose the making of an Order for the
reduction of the capital of the said Company under the
above Acts should appear at the time of hearing by him-
self or his Counsel for that purpose and a copy of the
Petition can be inspected at the office of the undersigned
Solicitors and a copy thereof will be furnished to any
creditor or shareholder of the Company requiring the same
by the undersigned Solicitors on payment of the regulated
charges for the same.

Dated this 25th day of November 1895.

GEO. A. CROWDER Chief Clerk.
LONG & GARDINER

8 Lincoln's Inn Fields London W.C.

Agents for:

CRUST TODD MILLS & SONS,
of Beverley Yorks.

Solicitors for the Company.

Miscellaneous.—Cont.

ADVERTISER, 12 years in Chemical Trade, part as Chemist, three years Management, is open to an Engagement. Vitrol, Saltcake Soda Ash, Caustic Soda, Bleach and Chlorate, Sulphur and Sulphate of Alumina.—Address "Work," *Chemical Trade Journal* Office, Manchester.

ANILINE OIL, Binitrobenzole, Wood Distillation Products, Printers' and Dyers' Chemicals.—Chemist thoroughly familiar with manufacture of above desires position.—Address "Oil," *Chemical Trade Journal* Office, Manchester.

CHEMIST wants Re-engagement; has had twelve years' experience in varied chemical works, Assaying, Analysis, and Erection of Plant. Salary moderate. Address T. North, *Chemical Trade Journal* Office, Manchester.

PRACTICAL Chemical Plumber and Lead Burner will be open for Engagement shortly, either as Foreman or Journeyman; over 20 years' experience throughout Britain; references.—Address "Plumbo," *Chemical Trade Journal* Office, Manchester.

BONE OIL for BONE PITCH.—Tenders are invited for make of above during the year 1896, say about 40,000 gallons. Delivery free to Wharf or Rail in London, in suitable barrels, to be supplied by buyers.—Address H., 35, Balfour-road, Highbury, London, N.

GLASS CARBOYS.—For Sale, 1,000 Three to five gallon sizes. Cheap. Plain necks, stone stoppers.—R. HOARE, The Friary, Plymouth.

DRUG or INDIGO MILL, for power, FOR SALE, pan 18in. diameter by 18in. deep; lying Manchester.—Address A., 45, Smallbrook-street, Birmingham.

TWO 26in. Hydro Extractors, one for power, the other for hand and power. Two Blast Fans, about 20in. diam. Cornish Boiler, roft. by 24in. diam.; no Cross Tubes, all fittings, £18. Carter's No. 1 Disintegrator, £11. One horse Vertical Engine and Boiler combined, by Hindley, £16; and one each 7in. (£20), and 8in. (£25), Horizontal Engines, complete.—"Hydro," *Chemical Trade Journal* Office, Manchester.

SOAP FACTORY.—Compact Premises, South-east of London, in full working order. Rent rising from £95 to £125. Price for Lease, Plant, Office Furniture, etc., £1,000.—Apply to James Todd, Esq., Chartered Accountant, Preston; or to Mr. Bradshaw Brown, Billiter Square Buildings, London, E.C., and Mill Wall, London, E.

TO Dyers, Manufacturers, & others.—To Let or Sell, the Freehold Premises known as "The North Dean Chemical Works," near Halifax, consisting of about 12,000 yards, together with Steam Boilers and Buildings. There is a plentiful supply of water, and it is conveniently situated for rail and water carriage.—For further particulars apply to H. WHITFIELD (Lee and Whitfield), Chartered Accountants, 17, East Parade, Leeds.

SMALL WORKS in Manchester District, suitable for making any description of Chemicals. A good opening for young man commencing business. Only a small capital required.—Address W., *Chemical Trade Journal* Office, Manchester.

TO BE LET or SOLD, a Chemical Works, about 9 miles from Manchester; suitable for Horn Pith, Precipitated Phosphate, Size, Glue, Chemical, or Artificial Manure Works; all necessary plant on the premises, which is to be sold cheap. Good railway and canal accommodation. There is also a large house attached to the works. Apply for further particulars to Davis Bros., 30, Blackfriars-street, Manchester; or T. and J. L. Tunstall and Co., Bewsey Chambers, Warrington.

TO BE SOLD, the LANCASHIRE MANURE COMPANY'S WORKS at Widnes with Machinery and 24,400 square yards of Freehold Land.—address J. Hosking, 16, Fenwick Street, Liverpool.

MANGANESE ORES up to 95 % Mn_2O_3 (Oxide), 95 % MnO_2 (Peroxide), and 75 % $MnCO_3$ (Carbonate). **Chrome Ores, Fluorspar, Feldspar, Limespar, Quartz, Silica, and all kindred minerals**, purity guaranteed, supplied by

JULIAN PANNENBERG, ARNSTADT, THÜRINGEN

Samples and Analyses on Application.

Peacock's "Manchester" Disintegrator



Will grind and dress any material, animal, vegetable, or mineral. Vibration reduced to a minimum. Twenty years' experience. Grinding, Dressing, and Extra Machinery a speciality. Also Maker of Dye Wood, Rasping, Chipping Machines, Engine Wrought Iron Pulleys, Shafts, Hangers, and Pedestals, &c.

W. H. PEACOCK
Chemical Engineer & Millwright
BRADFORD, MANCHESTER

BLAYDON MANURE AND ALKALI COMP.'S
PURE WHITE SULPHATE OF ALUMINA
BLANC FIXE, CHLORIDE, NITRATE
AND SULPHIDE OF BARIUM.

UNITED ALKALI COMP.'S

HYPO-SULPHITE OF SODA,

WALTHER FELD & CO.'S

PURE PRECIP. CARBONATE OF BARYTES 96

Also Hydrate and Anhydrous Alumina, Chloride and Carbonate of Alumina, Aluminate of Soda, Hydrate of Barium, &c.

Agents: JULIUS HULSEN & CO., NEWCASTLE-ON-TYNE

TUBES
IRON and STEEL (butt or lap welded), and **FITTINGS** for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanised white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 8in. diameter. **COILS** for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

JOHN SPENCER,
Globe Tube Works, Wadnesbury, and 11, Great St. Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCORAN
MILLSTONE BUILDING
WIRE WEAVER, MACHINE MAKER, AND GENERAL MILL FURNISHING. Sole Maker of MILLBURN Patent Conoidal Stone Crinders. Especially suitable for materials, Wet or Dry. Works and Warehouses: Back Church Lane. Parcel Dept.: Basement, Corn Exchange.
31, MARK LANE, LONDON

CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

SHERDLEY GLASSWORKS, ST. HELENS.

Liverpool: Exchange Chambers, Glasgow: West Campbell-st.

DULTON & CO.,

LAMBETH,
LONDON, S.E.

FACTURERS OF
NEWARE
CHEMICAL
APPARATUS
OF
DESCRIPTION.

OF LISTS
APPLICATION.



IMPROVED
STONEWARE
ACID PUMPS.

Each Pump prior to
leaving the Factory
is put into actual
work and tested.

ROOMS: 17, Deansgate, Manchester; 100, Soho St., Liverpool.
Granville St., Birmingham; 6, Rue de Paradis, Paris.

SPENCE'S LUMP ALUM

(POTASH or AMMONIA).

Leading Make for nearly Half a Century.

PURE SULPHATE OF ALUMINA and ALUMINO-FERRIC.

R SPENCE & SONS, Manchester Alum Works, MANCHESTER.



CONVEYORS

for CHEMICALS and
ALL PURPOSES
(Also ELEVATORS),
ALL SIZES,
With Fittings & Troughs, &c.

ALWAYS in STOCK or IN PROGRESS.

(Contractors to H. M. Government.)
Telegrams: "CONVEYOR, LONDON."

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ock's "Manchester" Disintegrator.



Will grind and dress any material,
animal, vegetable, or mineral.

Vibration reduced to a minimum.

Twenty years' experience.

Grinding, Dressing, and Extracting
Machinery a speciality.

Also Maker of Dye Wood, Rasping and
Chipping Machines, Engines.

Wrought Iron Pulleys, Shafting
Hangers, and Pedestals, &c.

W. H. PEACOCK,
Chemical Engineer & Millwright,
BRADFORD, MANCHESTER.

Tender.

THE CLEANSING COMMITTEE

of the MANCHESTER CORPORATION are
prepared to receive TENDERS for twelve months' sup-

Lime and Lime Ashes.	Caustic Soda (98 per cent.).
Saddlers' Ironmongery.	Resin.
Glass and Lead.	Creo-sote Oil.
Brown Oil of Vitriol.	Pitch.
Spirits of Salts.	Chloride of Lime.
Caustic Bottoms.	Mineral, Neatsfoot, Rape, and Paraffin Oil.

Specifications may be obtained from Mr. R. D. Callison,
Indoor Superintendent of the Cleansing Department, Town
Hall, Manchester.

Tenders must be sent in before 12 o'clock on Wednesday
next, the 18th of December. The Committee do not bind
themselves to accept the lowest or any Tender.

WM. HENRY TALBOT,
Town Clerk.

Miscellaneous.

Replies to Advertisements addressed to the
"Chemical Trade Journal" Office are forwarded to
Advertisers, post free.

INSTITUTE OF CHEMISTRY OF GREAT
BRITAIN AND IRELAND,

20, BLOOMSBURY SQUARE, LONDON W.C.

THE NEXT EXAMINATION for
the MEMBERSHIP of this Institute will be held
on TUESDAY, the 7th day of January, 1896, and three
following days.

Two Examinations are held annually—viz: one in Janu-
ary and one in July.

All Candidates must produce evidence of having passed
a preliminary examination in subjects of general education,
and of having taken a systematic course of at least three
years' study in one of the Colleges approved by the
Council; or having been engaged for two years in the
laboratory of a Fellow of the Institute, and for two other
years in one of the approved Colleges.

The Council desire it to be understood that the right to
use the letters A.I.C. and F.I.C. belongs to persons who
have passed through the course of study and the examina-
tions prescribed by the Institute.

A prospectus containing full particulars of the regulations
for admission to the Membership of the Institute, may be
obtained from Messrs. Blundell, Taylor and Co., 171,
Upper Thames Street, London, E.C. Price One Shilling.

(By Order of the Council)

J. MILLAR THOMSON, Registrar.

CHEMICAL WORKS FOR SALE.

To be Exposed within the Faculty Hall, St George's
Place, Glasgow, on Friday, 20th December, 1895, at 12
o'clock Noon, the WORKS of DONALD'S CHLORINE
SYNDICATE, at LONGFORD, KILWINNING,
Ayrshire.

The Works have been erected in a most substantial
manner for the purpose of manufacturing Bleaching
Powder by the Donald's Process, Chlorate of Potash,
Chlorate of Soda, and Saltcake.

The Buildings and Plant are extensive, and include
Chlorine Plant, Drying Towers, Oxidising Towers, Decom-
posing Plant, Recovery Plant, Bleach Chambers, Refri-
gerator, Lime Mill, Engines, Boilers, Steam Pipes, Labora-
tory, and other Apparatus and Plant. There is a railway
connection, with ample siding accommodation throughout
the Works. Any Movable Plant and Stock remaining on
the Premises may be taken by the Purchaser at a Valuation.

The Ground, extending to 5½ Acres, is held on lease at
a moderate rent, with right to obtain a perpetual feu, but
if desired by the Purchaser it may be relinquished at Whit-
Sunday first.

A Break-up Valuation of the Works by an experienced
Auctioneer amounted to about £4,200, but they will be
exposed at the Low Upset Price of **£4,000.**

Fully-detailed Inventories may be seen in the hands of,
and orders to view may be obtained from, J. M. Taylor and
Foulis, Writers, 180, St. Vincent-street, Glasgow.

WANTED, at Reading Gas Works,
an Experienced SULPHATE OF AMMONIA
MAKER, to take Charge (modern plant by C. and W.
Walker). One able to do small repairs to Sulphate plant,
and act as a Spare Engine Driver, or Boiler Attendant in
Gas Works, preferred.—Apply at once, enclosing recom-
mendations, and stating age, experience, and wages
required, to Mr. Edward Baker, Engineer

PRACTICAL Chemical Plumber
and Lead Burner will be open for Engagement
shortly, either as Foreman or Journeyman; over 20 years'
experience throughout Britain; references.—Address
"Plumbo" Chemical Trade Journal Office, Manchester.

CUPREOUS PYRITES.—Wanted,
TENDERS for supply of large quantity at Man-
chester Docks in 1897.—Apply "Vitriol," Chemical Trade
Journal Office, Manchester.

Miscellaneous.—Cont.

FOR SALE, the OXYGEN PLANT, recently erected for Purification purposes at the Stoke-on-Trent Corporation Gas Works, by Brins Oxygen Company, Limited. It may be inspected on application to the Manager, Mr. W. Prince. No reasonable offer will be refused.

SOAP FACTORY.—Compact Premises, South East of London, in full working order. Rent rising from £95 to £125 per annum. Price for Lease: Plant, Office Furniture, &c., £1,000.—Apply to James Todd, Esq., Chartered Accountant Pre-ton; or to Mr. Bradshaw Brown, Billiter Square Buildings, London, E.C., and Mill Wall, London, E.

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PLATINUM Utensils, Scrap, Lamp Ends, etc. Best Prices given by Derby and Co., 44, Clerkenwell Road, London, E.C. N.B.—Platinum S.S.I.

DISINTEGRATORS.—A New Machine for £12., second to none, with 18 inch grinding chamber. Also Mortar Mill, 5ft. 6in. pan; for £28. A 10 x 6 New Stone Breaker, for £28.; larger sizes in proportion, or can be had on hire, with option of purchase.—Mason Bros., late S. Mason and Co., Stone Breaking and Grinding Machine Makers, Brandon-street, Leicester.

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AMMONIA, all qualities and strengths. Enquiries solicited. BROTHERTON & Co., Birmingham, Leeds, and Wakefield.

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Samples and Analyses on Application.

J. STIFF & SONS,

MANUFACTURERS OF

CHEMICAL APPARATUS

IN VITRIFIED STONEWARE.

ACID PANS, ACID PIPES & CONNECTIONS, RECEIVERS, CONDENSING WORMS, RETORTS, COCKS, JARS, BOTTLES & INSULATORS, BATTERY JARS, POROUS CELLS, &c., &c.

LAMBETH, LONDON, S.E.

ABSOLUTELY PURE

SULPHURIC ACID

Guaranteed Free from Ammonia and Nitrogen.

Pure Chemicals. Chemical & Physical Apparatus

PHILIP HARRIS & CO., Ltd., 144 & 146, Edmund Street, BIRMINGHAM

BLAYDON MANURE AND ALKALI COMP.'S

PURE WHITE SULPHATE OF ALUMINA
BLANC FIXE, CHLORIDE, NITRATE
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UNITED ALKALI COMP.'S

HYPO-SULPHITE OF SODA,

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PURE PRECIP. CARBONATE OF BARYTES 96

Also Hydrate and Anhydrous Alumina, Chloride and Carbonate of Alumina, Aluminate of Soda, Hydrate of Barium, &c.

Agents: JULIUS HULSEN & CO., NEWCASTLE-ON-TYNE

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JOHN SPENCER,

Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCORAN

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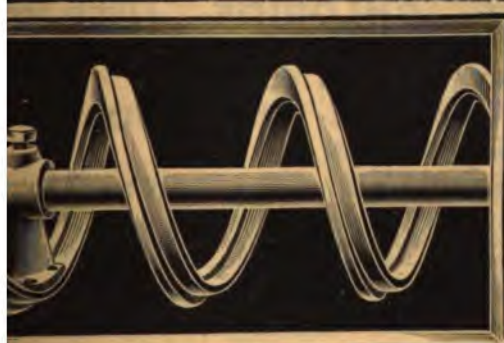
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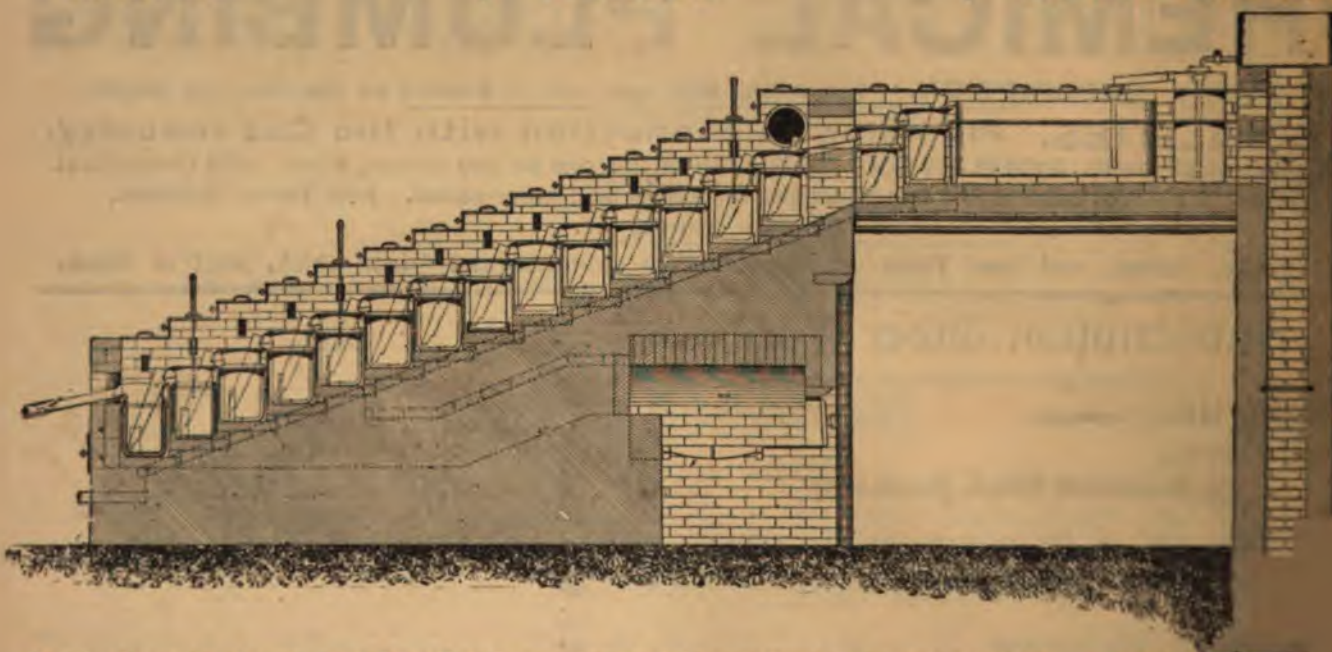
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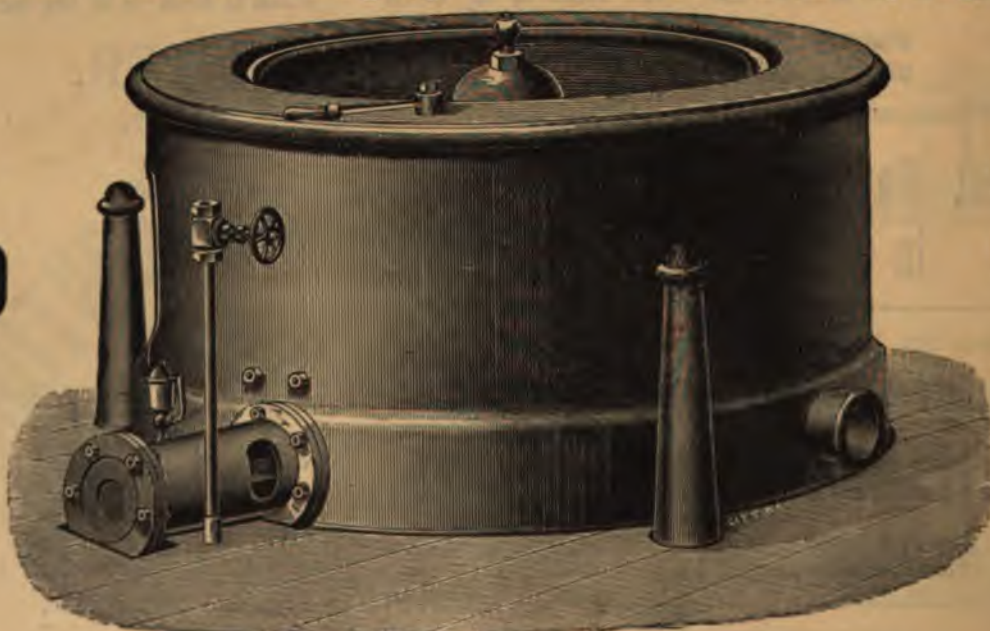
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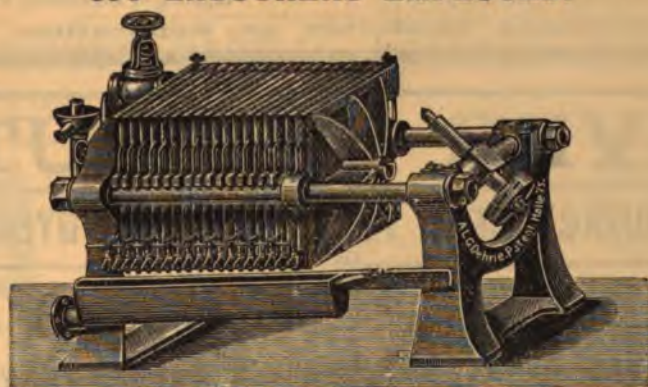
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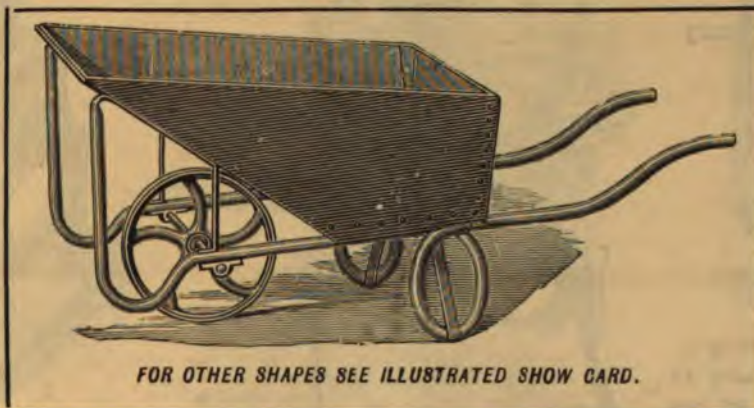
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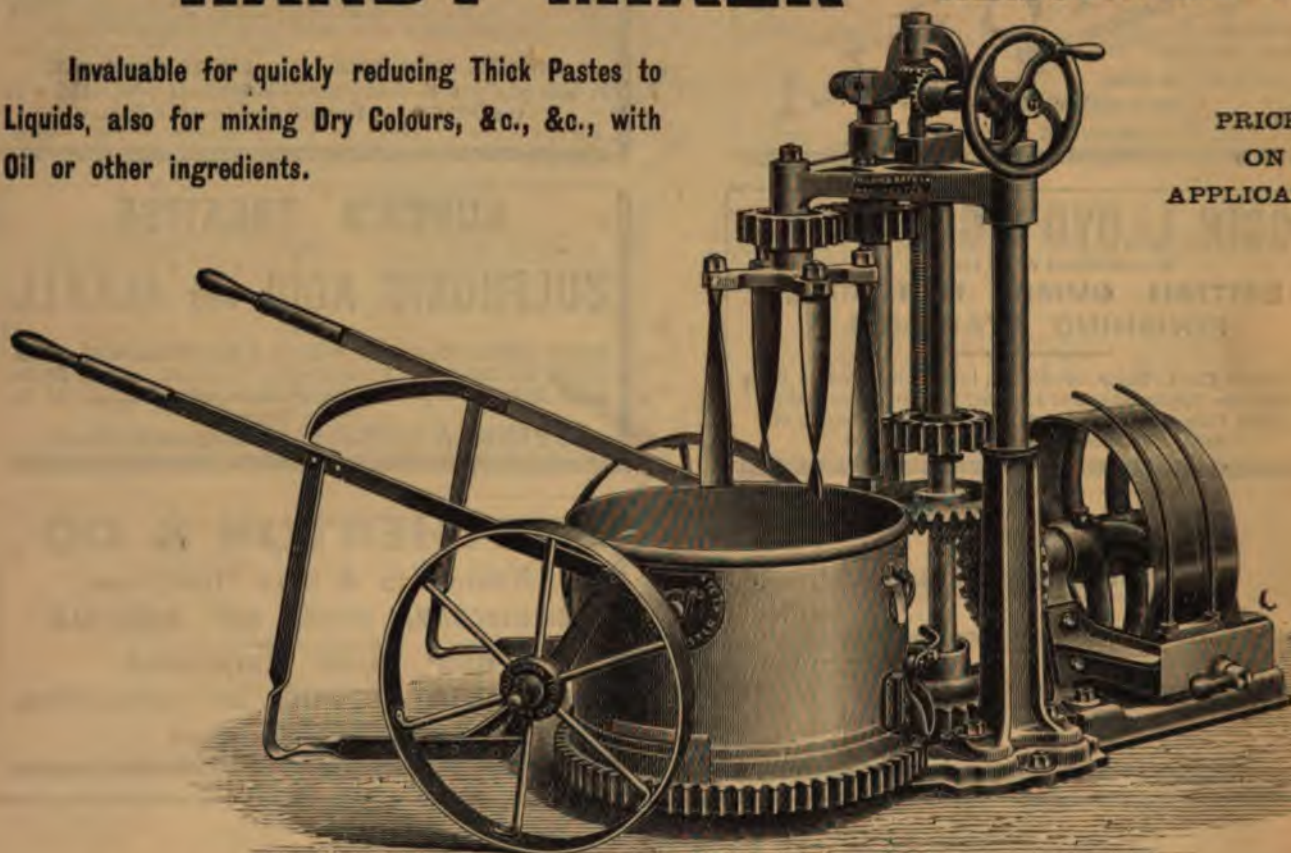
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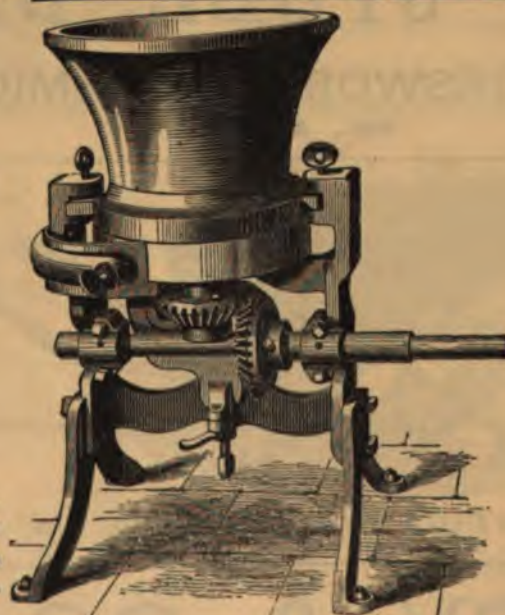
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